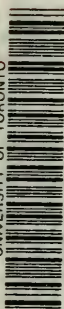


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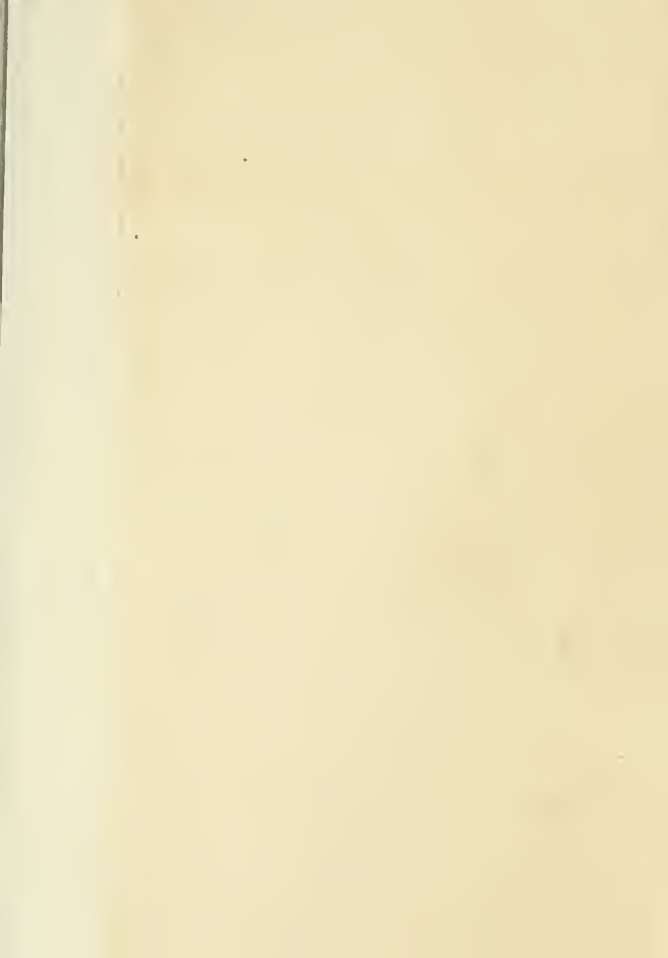


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A GENUINE
GUIDE TO HEALTH.

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A
GENUINE
GUIDE TO HEALTH;
OR, PRACTICAL ESSAYS
ON
THE MOST APPROVED MEANS OF PRESERVING
HEALTH, AND PREVENTING DISEASES.

TO WHICH ARE ADDED,

*Cursory Observations on Intemperance and various Excesses, and
the extraordinary Influence they have on the human Frame;
with Suggestions to counteract their baneful Effects.*

ALSO,

STRICTURES ON THE PECULIAR REGIMEN AND
MANAGEMENT OF INVALIDS, WOMEN IN
CHILD-BED, AND INFANTS,

WITH AMPLE INSTRUCTIONS TO SELECT SUCH ARTICLES OF FOOD, &c. AS ARE
BEST ADAPTED FOR THEM.

Written in a brief, but comprehensive Manner, by
T. F. CHURCHILL, M.D.

PROFESSOR OF MIDWIFERY IN LONDON, AUTHOR OF THE NEW PRACTICAL
FAMILY PHYSICIAN, MEDICAL REMEMBRANCER, &c. &c.

*"Health is the soul that animates all the pleasures of life, and without it a man starves
at the best of tables, is poor and wretched in the midst of the greatest treasures.—Without
Health, youth loses all its vigour, beauty all its charms, music is grating to the ears,
conversation disagreeable, palaces are prisons, riches useless, honours and attendants
cumbersome, and crowns themselves are a burthen."*

S.r William Temple.

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To his Grace the Duke of Marlborough.

MY LORD DUKE,

THE following pages, originally designed for public utility, as a guide for the conduct both of the healthy and invalid, I have deigned, with all due submission, to lay at your Grace's feet, in the conviction of the interest which your Grace always feels in alleviating the distresses of humanity.

Every one who labours to promote the welfare of his fellow-creatures, and soften the sufferings attendant on human life, however humble the attempt, will, I flatter myself, be considered by your Grace as not altogether unprofitably employed, and may reasonably indulge himself in the hope of meeting with the favour and protection of the good and virtuous. As it is the well-known characteristic of your Grace to dispense with a liberal hand those blessings among the necessitous, with which Providence has so abundantly favoured you, I trust I may be allowed to address these few trite observations, on a subject in which every one is materially concerned, to your Grace, without incurring the hazard of being considered vain or ostentatious.

I feel peculiar pleasure in having an opportunity afforded me of thus publicly and gratefully acknowledging and thanking your Grace for that generous bounty which my family and myself have so many years experienced from your Grace's hands; impressed with a due and lasting sense of which,

I remain,

MY LORD DUKE,

Your Grace's most obliged

and

Devoted humble Servant,

THE AUTHOR.

PREFACE.

THERE are very few subjects with which I am acquainted that appear *primâ facie* of more importance to most individuals, than a general acquaintance with the principles of regimen and diet, both as it respects the preservation of health, as well as that of assisting the operation and effects of medicine, when invaded by disease. The absolute necessity of such a species of information must be admitted by every person of enlarged and liberal sentiments ; because, among the aggregate of people, there are but comparatively a very small number who know, in any good degree, how to regulate those circumstances in which not only their *health*, but their very *life* is very materially concerned.

To enjoy the blessings of health, with the art of preserving it, in order to be fitted for the relative social duties and engagements of life, as well as being qualified for filling, with ease and comfort to ourselves, that station in the sphere of human life in which the Divine Wisdom has thought proper to place us, is a desideratum, whatever our rank or situation, which most people seem peculiarly solicitous to obtain; and for this desirable purpose, this summit of sublunary happiness, there are no means so likely, that I have ever observed, as a proper attention to what we eat and drink, connected with a due regard to the non-naturals in general, under which are included air, exercise, sleep, food, the excretions, and the passions.

“A genuine Guide to Health” is a specious and alluring bait, and thousands may be induced to take up a book of this sort, with the most anxious expectation of finding in it every thing they can wish, to direct them in the attainment of so desirable a purpose; but when, on examination, they find this blessing is to be acquired only by certain restrictions and prescribed rules, they throw it down with disgust, pity the author for his dull insensibility, and, rather than part with one favourite lust, run with determined im-

petuosity to the very vortex of misery, when, having satisfied their propensities with pleasures of the most ruinous and destructive tendency, they sink down under the weight and horrors of an emaciated constitution, and linger out a short life, in all the complicated wretchedness of pain and despair.

Errors in diet, with a total carelessness or indifference to these subjects, have been universally supposed by medical practitioners to rank among the most fertile sources for the production of disease; and to these causes may undoubtedly be attributed that direful catalogue of woes which harass and afflict human nature. He, therefore, who labours to correct them, will not, I am convinced, among the liberal and philanthropic part of society at least, be considered as being altogether unprofitably employed; and, with such motives, the author of the subsequent essays presumes there needs no apology for the introduction of his sentiments, in submitting them to the test of public examination.

But some persons may be ready to inquire, are we not already in possession of works of this kind, which contain in them *all* that is necessary to be known on these subjects, and if so, what

need is there of more? To which it is answered; that, although there are publications of this kind in print, and some of them arranged with great clearness and perspicuity, yet, in general, there seems this defect attached to them: first, from the great length of time they have been written, they are either become obsolete, or do not embrace the improvements of more modern times; or, secondly, they have been principally intended for the exclusive use of the profession, and on that account are very ill adapted to general apprehension; added to which, they are for the most part so voluminous, and enter so philosophically into the minutiae of the subject, and are so replete with technical terms, that to the class of *ordinary* readers, they become totally unintelligible or a dead letter.

Without a wish of enhancing my own credit at the expence of others, or to insinuate an idea that *all* other *Guides* are wrong, and my own only right, I can of a truth avow, that nothing is more distant from my mind than that of arrogantly pulling down the system of another man, and elevating my own on its ruins; neither is it my intention, in the prosecution of my subject, to point the reader to any particular nostrum of my own, but endeavour faithfully to take na-

ture for my guide, and follow her step by step: so that under her direction, a rational knowledge of the true cause and source of diseases may be discovered; and with that knowledge, as an effect from a cause, learn studiously to avoid those circumstances which we are assured *a priori* must be the most certain means of involving us in the pain and distress which necessarily accompany them, when we are unfortunately the objects of their attack.

In addition to what I have before remarked on this species of publications, in the present day, we are far from being deficient in *guides* of various sorts, but, being spurious and deceptive, they are for the most part, I am sorry to say, *blind guides*, who, with their followers, frequently stumble, and fall into the mire. We have our '*Guides to Health*,' our '*Maxims of Health*,' '*Guides to Old Age*,' and many others of the same plausible and specious kind; but as these, we are confident, have but one common object in view, which is that of imposing on public credulity, they cannot be reprobated by *honest* men in terms sufficiently severe. The true and only purpose these *Guides* are intended to answer, is merely that of a puff or advertisement, to palm on the public their inert, if not baneful nostrums.

Thus, for example, Dr. *Solomon's* method of guiding people to health is that of drenching them plentifully with his *infallible specific* for all disorders; whilst Dr. *Brodum*, with equal assurance, protests that this blessing is only attainable by reiterated and copious libations of his five-guinea bottles of nervous cordial and botanical syrup, which, if properly complied with (for so in his '*Guide*' he has represented it), will not only ensure people a very extended age, but at last may even render them immortal, and set death, with his terrors, at utter defiance!!!

Among characters of *this* sort (having, as I before mentioned, no nostrum or specific to recommend) I trust I shall not be classed or mistaken; for deception in any situation, or under any circumstances, is always of a dangerous tendency, from which my mind would recoil with disdain; but when the *health*, nay, I may say the very *lives* of our fellow-creatures (things of the utmost importance on this side the grave) are concerned, it has the most baneful and deadly effects; whilst the fraud is fostered, by the facility and natural disposition of mankind to become the willing dupes and encouragers of such unprincipled delusions. The basest of men (observes a great and learned author), who, by private or open

violence, commit the *horrid crime of murder*, seldom attack more than a single individual; whereas the wretch who is so far lost to shame as to be capable of misleading his fellow-creatures, from interested and sordid views, by foisting upon the world a delusive and false system of practice, may have the lives of thousands to account for, when he stands before the tribunal of unerring Justice: and, from the effects of his mischievous publications, absolutely continue to murder *even in the grave*.

Medical men in common stand in need of very little additional information on the subject of *regimen*; they are already (or at least ought to be) pretty well acquainted with it; and therefore, as my wish is that this work may be *generally* useful, I have studiously avoided all technical terms, so as to accommodate it to every class of readers. Whilst practitioners are witnesses to the intractability of the generality of patients to submit to a regimen alone calculated to render them the most essential benefit, they cannot but lament with me; either the deficiency of that general information on the subject, which can only second their endeavours; or be disgusted at that perverse kind of conduct in some of them, which not only places themselves in

the most perilous situations, but at the same time reflects the greatest discredit on those who are labouring to conduct them through some dangerous disorder, which, on *this* account only, is often rendered doubly difficult, and sometimes impossible to effect.

Divested of a wish to detract from the merit of any one, I could not, however I may stand condemned by some people, avoid touching on the evil tendency of these sordid publications, which, from their enticing titles, there is great reason to apprehend, are read with too much avidity; particularly, as at the first view, several may be inclined to suppose the present work one of the same class, and, under that impression, throw it aside unread: in my own defence, therefore, it became absolutely necessary to premise what I have already hinted. Whatever may be the merit (if any) or fate of this little treatise, of one thing I can confidently assure the reader, that its publication did not originate in mercenary motives, or the vanity of appearing in print; but in the anxious hope that in some measure it may prove of public utility. Whoever then will patiently bestow on it a serious and candid perusal may be enabled to comprehend some of the most prominent and

distinguishing causes of diseases, and, by a due share of attention, be not only qualified for the prevention of some of the direst evils of human life, but also to mitigate or remove them when they happen to invade.

In the prosecution of this plan, I shall have nothing to propose but what is warranted and approved by men of deep study and profound learning. To be acquainted with the most likely means of preserving health, without infringing on the *real* pleasures of life, and know, in some good measure, what line of conduct to pursue when the bodily machine is impeded in its functions, appear to me to be subjects in which every individual in society is deeply interested; for this must be the main-spring of all human exertion: divested of health, riches, honours, titles, every thing in short beside, tend only to nauseate and embitter the calamity. To put the reader in possession of the method of attaining this chief of blessings, I have exerted my humble talents in the following pages; and I feel little hesitation in asserting, that such as are not above being taught, and will conform to the doctrines here laid down, will not be disappointed in their expectations.

It would ill become a man of candour or integrity to conceal any thing from the world, in order to render his publication more palatable, or to lay down any set of rules for public guidance, which will not bear a strict scrutiny by the touchstone of truth and philosophy. To a mind feeling as it ought to do under such circumstances, nothing can possibly afflict it more than the fear of injuring that health or life which, with unlimited confidence, is entrusted to his care; nor any thing more truly gratifying than the cheering and animating prospect of benefiting others in so momentous a concern as the one under consideration; but to advance notorious falsehoods for the infamous purpose of deluding the credulous and unwary, and to flatter and fall in with their vices, is a species of enormity, the most execrable of all social turpitude, which, sooner or later, entails on the perpetrators of it its just and merited punishment. Without fearing the imputation of egotism, I must once more assure the reader, that what is here adduced is in strict conformity to the principles of reason and truth, and that strengthened by observation and experience of an uninterrupted practice of five-and-twenty years; and in proportion as the reader is receptive of instruction, and can throw aside the impression of preconceived notions and preju-

dices ; in the same ratio he will be capacitated not only to regulate his own matters in the various situations in which he may be occasionally placed, but also to extend his sphere of usefulness to others, who, he will soon be convinced from his own experience, are, by their injudicious conduct, heaping on themselves irremediable and incalculable misery.

It is a fact which the most sceptical and determined can with difficulty controvert, that a vast number of the calamities incident to mankind might, in the first instance, be generally obviated by a prudent attention to their mode of living, such as is comprized under the term of non-naturals. These, with some other subjects equally important, and connected with them form the principal contents of this treatise, and have always been considered among the most enlightened professors of the healing art as the most essential of all other things for the purpose of insuring health and vivacity ; but the misfortune is, in this particular as well as many others, that people in common are too prone to be self-willed, and even in the most urgent cases, are, with difficulty, restrained from what is wrong, as well as persuaded of the absolute necessity of making any sacrifices

on their part. In other words, they wish *every thing to be done by medicine*, rather than preclude its necessity, and would prefer swallowing dose upon dose, provided no proposition is made to them of an abridgment of their sensual delights. To talk to a person in whom there appears an early tendency to gout, scrofula, or any other hereditary disease, of preventing its progress by adhering to a diet composed of milk and vegetables only, with a copious share of exercise, would, in the view of too many, be next to proclaiming yourself an idiot or a lunatic ; but boldly to say, eat of your high-seasoned dishes, give free scope to the indulging in the luxuries of the wine-cellar ; in short, eat and drink whatever your vitiated taste finds palatable, and when the foe presumes to make the attack, a bottle of *Doctor Brodum's* or *Doctor Solomon's cordial* will be sure to repel him : that is the man whose advice is readily followed ; that is the man whose abilities and understanding are extolled to the skies. What wonder then is it, that such men as these amass large fortunes, who can, without remorse or compunction, fill their pockets upon such *honourable terms* ? whose only study is to gratify the depraved inclinations of the sensualist, hold out false and delusive prospects to the nervous and hypochon-

driac, and, to enrich themselves with greater facility, conceal those very truths which perhaps, nay, *most probably* they are ignorant of, which can alone set them in the right road to that happiness which they are so industriously striving to obtain by methods equally fruitless and irrational.

Some of the reasons above pointed out, with many others, at the same time viewing and lamenting that profound ignorance which, on these subjects, I have for many years observed generally to prevail, induce me to make the present essay, which I shall be happy to place in the hands of all, as an impartial and faithful guide. I have throughout avoided being unnecessarily prolix or tedious on the one hand, or curtailed or abridged any portion of the subject-matter which appeared to me to be of real utility, on the other. In addition to this I have particularly aimed at placing the subject in as clear and perspicuous a point of view as possible, and, lastly, of accommodating the whole, both in the arrangement as well as phraseology, to the capacities of every class of readers ; and if *some* of the advantages which I promise myself shall be the pleasing result, and my mite of labour shall be

in any degree instrumental in benefiting my fellow-creatures, at the same time that I am making an appeal to their reason and good sense, that is the sum total of the wages I require ; and amply remunerated shall I feel, should it meet with general approbation ; whilst in this my attempt to be useful, I humbly rest in confidence, that *real matter of fact* will supersede the danger of being considered an idle boaster.

In conclusion : from a conviction of the advantages which mankind will experience in proportion as these rules are complied with, I am again impelled to enforce on my readers a careful and steady perusal of them ; and having satisfied themselves of their importance, to use every endeavour in recommending a general adoption of them to those with whom they have sufficient influence. It has cost me no small share of pains in the completion of this task ; and under a conviction of its vast utility, I beg leave to suggest the absolute necessity of a general circulation among all ranks of people. For this purpose I would hint to the more *opulent* part of the public, that no present more acceptable and profitable could be offered to their indi-

gent neighbours, who have an equal interest with themselves in the attainment of *the blessing of health*.

With an eye to so desirable and philanthropic an object, the *publisher*, on his part, has commendably consented to contribute his laudable endeavours, by printing the work in a *cheap form*, of a convenient portable size, with a neat type, so that every class of readers can avail themselves of the possession of this little volume at a very small and easy expence.

Upon the candour of the public, in whose service I have been frequently engaged, I rely with cheerfulness, who, in no instance is known to withhold its fostering protection (however humble the instrument) from him whose principal object is that of softening the afflictions of the unhappy. To the judgment of the world I now submit this little treatise, and in its passage through the fiery ordeal of criticism, should it be deemed at all worthy of it, I heartily wish that the judgment and sentence which the learned reviewers may pronounce on it may be tinged with the same sentiments which first prompted me to present it to the public notice, and

that they may labour with as much interest and solicitude for the public weal, as my poor abilities have been exercised in the present undertaking.

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THE GENUINE GUIDE TO HEALTH.

ESSAY I.

Of the primary component Parts of Nature.

OF FIRE.

THE visible creation or frame of nature, is a chain or connection of parts, an organised system of well-ordered perfection, created, sustained, and set in motion by the fiat of infinite wisdom; the whole conducted with perfect regularity, and simultaneous harmony, but each of its parts depending on the power and influence of others, for the promotion of its uniform action and preservation. If a link in this chain be interrupted or broken, a cessation or absolute destruction of motion in all those parts, from which the communication is cut off, inevitably follows.

The two most material and principal agents in nature, are air and fire, which are absolutely and indispensably necessary, both for the animal and vegetable productions of the earth, as well as all the phenomena of nature, upon the surface of the habitable globe. Take away the air, the light, and the genial

warmth of the solar influence, and the whole face of Creation, with every thing contained in it, would wither and die away.

Among the philosophers of antiquity, notwithstanding they allowed the existence of four elements, as fire, water, earth, and air, yet at the same time they entertained an opinion that there is one element common to the four, to which they applied the significant term of *prima materia*, the primary agent, from which all these four originally moved, differing only in their composition; for which reason they are alternately all changed into one another; that is to say, the earth becomes water, the water air, the air fire, and *vice versá*; the fire is condensed into air, the air into water, and the water into earth.

Fire is the principal agent, the cementing principle, or bond of union, which connects the most minute atoms of bodies one to another, and both animal and vegetable substances which have a natural tendency to run precipitately into a state of putrefaction when divested of this principle, are only prevented from it through the interposition of this element. The renowned Hippocrates, who has deservedly been styled the father of physic, and who in the prosecution of his studies took nature for his guide, says, the element of *air* has a principal dominion over the human frame, and is the chief and most material source of whatever affects it, whether it be good or bad; and with respect to *fire*, that it is the universal mover and dissolver of all bodies, is in perpetual action, even while itself is silent, invisible, and its operations concealed from our senses.

Plato, who borrowed his doctrines in some measure from the Pythagorean school, attributed the animal functions to an intermixture of air and fire extending its influence throughout

the whole frame. The office of expanding within, and acting through the whole body outwards, he ascribes to fire, while the element of air exerts its compressible energy from without, and keeps the internal within its due bounds; so that by the united agency of these two causes, a perpetual motion is kept up, by which he accounts for the action of the heart, with the circulation in general.

There is scarcely a substance in nature, but fire is capable of volatilizing with the exception of earth, and when concentrated by a speculum, even glass, the hardest metallic substances, and stones, are reduced by its power into a state of absolute fluidity; its dreadful effects on the human body, when it uncontrollably comes in contact with it, are too well known to every one, to need here a particular description. As a proof of the capability in earth to resist the action of fire, we can soon satisfy ourselves of this truth by the most simple experiment; if, for example, a single hair of the head be exposed to ever so strong a flame, the inflammable and volatile parts of it, suffer a speedy decomposition, yet after this is effected, it retains its pristine figure and cohesion of parts, unless purposely drawn asunder; but so slight will this cohesion be, that the ashes may be dissipated by the most gentle breath of air; for now, nothing remains of the hair but the *earthy* part. Again, if you expose a portion of any animal substance, say a piece of raw flesh, to the action of a very strong heat, the aqueous and volatile parts of it will be exhaled, the oleous parts will be exhausted, but the earthy portion remains unconsumed, will retain its former figure, and resist the farther action of the fire; but the cohesion of its particles is also so very tender, that the smallest degree of force reduces it to ashes.

There is, however, a *bone belonging to the vertebræ of the loins, which the Jewish Rabbins have supposed incorruptible, and capable of resisting the influence of the strongest fire. This bone they imagine is the only part of the body which is incapable of being consumed, and the idea was, that by its magnetic power it was to attract, and reunite all the other scattered atoms, to be raised again at the last day. This, however I mention as a proof of their superstitious ignorance, which will no doubt be treated by persons of common understanding with the contempt and derision it merits.

The element of fire pervades in a certain degree, every substance in nature: if one piece of wood, of stone, or metal be briskly rubbed against another, it instantly becomes visible to the eye. As fire is the most powerful agent in nature, and the great universal destroyer of it, so is there nothing known of sufficient force to resist and overcome its action. It will dissolve the union of the particles of water, and raise it with stupendous force in steam and vapour; witness the mighty power of a steam engine, and the solar influence on the waters of the ocean, which are alike subject to the same effects; nor is there a substance either solid or fluid, but by its entrance will undergo a decomposition and separation of its parts.

Philosophers indeed have asserted, that matter is divisible *in infinitum*, yet the divisibility of any given extension may be considered as a mathematical sophism, for what was originally created an atom, cannot be bruised or separated by the weight of the whole creation placed upon it. The division of one atom from another may undoubtedly be effected, but the division of an atom from itself is impossible, because its ex-

* The name applied to this bone is *Luz*,

istence is not supported by a cohesion of parts, or the application of one substance to another, but by an original continuity of substance, which is unchangeable but by annihilation; which we rationally conclude was never the intent of the great Artificer. A medicine, by the power of art, may be so minutely divided, as to exceed the utmost stretch of the imagination to conceive, yet each of the particles will notwithstanding still retain the powers which were proper to the whole mass. Again, medicines by a chemical process will often create new bodies, or be very materially altered in their original properties, but by trituration the original virtues of them are preserved, and every particle being brought into action, is again capable of exerting its powers.

All the elasticity which is discoverable in any body, is borrowed from the impulsive influence of fire; this by penetrating the surface of any substance, whether solid or fluid, acts internally with an expansive force, to loosen or drive asunder its constituent particles, and the external action of the air at the same time overcomes this motion of the fire, so that when the body begins to grow cool, the internal heat is counteracted by the external influence of the cold.

Seeing then from these few brief observations, that fire is not only extended in a certain degree throughout all bodies, and that by its activity it is capable of overcoming the strongest cohesions, we shall from thence in its application be in some measure enabled to judge of its influence with respect to diseases. In all disorders the equilibrium between the internal fire, and the external air is by some means interrupted; the consequence of this is, that the fluids become vitiated, the circulation impeded, and in proportion to the violence and danger of the complaint, is the fire more or less predominant.

An increased preternatural degree of heat is the usual concomitant, and primary indication of most disorders. In fevers we know that there is a superabundant degree of it, which requires in some measure the application of its opposite cold to counteract it. In such situations, what is so grateful to the patient as a draught of cold water? and what would nature so soon point at to diminish this excessive heat and distressing thirst as cold drinks, and yet does prejudice so far operate, even in this enlightened age, that it is with great difficulty a patient can be indulged with so gratifying and salutary an antidote. If the fire was thus predominant, and the body was consuming under its influence, what would appear so efficacious as washing it all over with cold water? and yet were such a proposition made to the bulk of mankind, unless better instructed, they would suppose you were about to send them to present death; though now it is proved as an incontrovertible fact, that this is the most beneficial of all other febrifuges, for the positive extinction of this fire or heat.

In a state of death the opposite of this takes place, for now the body exhibits an excessive degree of cold. In persons who have lain some time under water, there is also an extreme degree of cold, and in attempting a restoration to life, the principal agent made use of for that purpose is the application of heat, for in both these cases, the expanding fire has been greatly overbalanced by the external air, so that the proper equilibrium is either interrupted or totally destroyed. In proportion as the common air is deprived of the elementary principle of fire, it loses a portion of its elastic quality, which is the cause of the quicksilver sinking in the barometer, on the approach of foul weather, for which reason we find a very powerful influence on the animal spirits, which are always much depressed by it, for as the common air becomes gross and heavy, we not only suffer this diminution of spirits, but

our natural strength is also diminished ; the circulation grows languid, the body dull and phlegmatic, the stomach is impeded in its functions, and a variety of unpleasant sensations take place upon this change of the atmosphere.

With respect to animal or vital heat, its immediate cause exists in the crassimentum or coagulable part of the blood, attracting and retaining the fire which is dispersed through the earth. Of this the nerves are the principal conductors, throughout the whole body, subservient to the various operations of the animal œconomy ; and to the actions which depend on the will. Every fibre in the human frame is endowed with a certain principle of elasticity, and covered with a cellular membrane, which is formed of the continuations of the nerves, or their coats. Thus from the red blood attracting and retaining, and the nerves as conductors, conveying and distributing, the animal heat or fire is excited and preserved in a due state of equilibrium.

The particles of air appear but little attractive of one another, unassisted by the power of fire ; this is the agent that keeps them in their state of constant motion, or is the spring of their action, or of the elastic principle which air contains. The power of attraction and retention of heat, is peculiar to some substances in a greater proportion than many other natural bodies ; and in the human body this power of attraction appears more predominant in the red globules of the blood than in any other part, as is demonstrable from the disorders incident to persons of a rigidity of fibre, which is always found proportionable to the quantity of red blood ; and the truth of this assertion has been amply proved by various experiments made on the blood subsequent to its being taken from the body.

Of so great importance is this element of fire, that life,

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health, disease and death depend on its reception by our blood from the earth, and in the cure of diseases, claims our first and most particular attention. All our fluids are vehicles and conductors of fire, and in proportion to the excess or defect of red blood, is the defect or excess of animal heat : the former is attended with a lax fibre, and the complaints incident thereto, and the latter with a rigidity of fibre, and its consequents. Fire is repelled by sulphureous fumes or mineral gasses, the exhalations which arise from putrifying animal substances, and many other subjects, both natural and artificial. The air is rarified by heat, and condensed by cold ; humid vapours cool the air, because water is a conductor of fire or heat.

In a healthy state of body, the common heat of it is about ninety-eight degrees of Farenheit's thermometer, but this circumstance is variable in different constitutions, for some people enjoy very good health where it does not exceed eighty-three ; and this heat continues the same, of whatever degree the atmosphere or other surrounding bodies may be, except when a disease is produced thereby ; when either an increase or diminution of the animal heat follows. The human body is capable of resisting different degrees of heat or cold, according to the general habits of the person ; but in common, the heat rarely decreases lower than ninety-four, or rises to more than one hundred and ten degrees, though in some climates there are instances of a much greater quantum of cold being borne without inconvenience.

The symptoms of a predominant heat in the constitution, not the effect of disease, are said to be a thick yellow hair, abounding all over the body, a reddish colour in the whites of the eyes, with an intense degree of florid redness throughout the countenance, in the lips and mouth ; a slender, active, warm and robust body ; a quick, full pulse, an irascible dis-

position, easily provoked, but as easily appeased. In such persons there are manifest a peculiar strength and contraction of the vascular system, a firmness and activity of the viscera, with a compact, volatile and lively motion of the fluids. In such constitutions, all aliments which are capable of increasing the heat and force of the blood, and circulatory powers, will be highly prejudicial, whereas such as are of a moistening, cooling, diluent quality will be of great service.

In opposition to the above, the signs of a defect of this heat, with a consequent disposition to a cold temperament, are a delicate smoothness of the skin, the hair thin, fine, and not abundant; a paleness of complexion, inclination to corpulency, inactive, weak, cold; a slow, moderate pulse, not liable to have the passions easily wrought on, except that of *fear*, which frequently arises without any real exciting cause. In people of this constitution, the juices are mild, watery, phlegmatic, and slow of motion, and at the same time there is a prevailing laxity and debility of the solids. In this case, every thing which strengthens the solids, by increasing the defect of *fire*, and animates and warms the fluids, will be serviceable; whereas, on the contrary, every thing which has a tendency to moisten and relax will as certain be highly prejudicial.

As old age advances, the skin becomes wrinkled, the muscles contracted, and a gradual extinction or declension of this animal heat or fire takes place, for the supply of which we are at present without a specific. All diseases, at least with very few exceptions, are capable either of being cured, or at least palliated, but for the ravages of time, with its uncontrollable effects on the body, we have yet to learn a method of cure, except indeed it may be fortunately attained by consulting those *learned and honourable gentlemen, Doctors Brodum and Solomon*, who profess to have been long in the possession of

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that secret, which the *respectable* part of the profession have yet to learn. I have no doubt, however, but that this vital energy or fire, may in some measure be kept alive by artificial means, and even the infirmities of age rendered more tolerable, and consequently the remnant of life more comfortable. But how is all this to be obtained? Not by having recourse to the intoxicating effects of strong fermented liquors,—not by lying much in bed,—not by indulging in every species of intemperance, nor by the aid of common fire; these, instead of palliating, never fail of aggravating the infirmity, particularly the latter, which, instead of adding to the declining state of animal heat, would tend more to exhaust it.

It is by a strict attention to the general mode of living, such as will hereafter be found classed under the non-naturals, by living abstemiously, by not admitting the relaxing influence of lying much in bed, or indulging in a disproportionate quantum of sleep, and, in particular, living in a pure air, and taking that degree of exercise, of which walking is most eligible, which promotes an equable circulation of the blood, and restores the vital heat to its proper level, without inducing fatigue of body from *over* exertion.

In addition to all this, the body may be nourished, and the declining strength in some measure supported by the *external* application of nutritious substances. The absorbing vessels are always capable of taking up those particles of nourishment which are applied to them. Thus, for example, a bath of milk will operate this way so as to feed the exhausted frame, and similar effects may be produced by introducing warm emollient, oleous and mucilaginous matters through the pores by friction; and, with respect to clysters, we well know the human body is supported and nourished by this means only, for an incredible length of time. This idea seems

strengthened and corroborated by a circumstance to be met with in the Bible, where we learn that king David, who had nearly lost all his strength from age, and the vital fire so much extinguished, that he could by no means keep himself warm, was advised by his physicians to take to his bed a beautiful healthy young virgin as a concubine, by the contact of whose warmth his declining strength might be recruited, and his life protracted to a little longer period. He complied with this counsel, and put their proposal in practice, and the benefit he experienced seems to have even exceeded his most sanguine expectations.

Warmth might have been communicated by a culinary fire, still the effects would have been what I have before mentioned ; but by this means, the salutary vapours of this healthy female were readily transfused by the activity of the absorbents through his emaciated and wasted body, and the most beneficial effects were the consequence. In making an experiment of this or a similar kind, the night season is always to be preferred, because, during sleep, the pores are most relaxed and open, and by this means the most volatile exhaling vapours pass from the body of an healthy subject into that of the infirm or aged, with much greater facility, absorption being more readily carried on during this period.

By the determination of the great Creator of the world, every thing in time must decay, and come to its consummation. A mechanical instrument, which is in perpetual motion, will perform its intended purposes till the parts of which it is composed begin to decay, which by attrition must infallibly be the case: but the human frame enjoys this advantage, whilst it differs from all other machines, that by a prudent care with respect to temperance and regularity, it is so wisely constructed, it repairs itself by the same actions which pro-

duce its exhaustion. But even the fabric of our bodies is at last worn out and destroyed by its own actions, the solids and fluids reciprocally destroy each other, and, like every thing in nature beside, have their beginning, their state of perfection, their declension and end; nor is it in the power of art to invert this order of nature.

After the fiftieth year, there is a very visible declension, even with the advantages of a life of perfect temperance, and that person who feels any anxiety or solicitude for life, should shun with determined resolution those things which have a natural tendency to consume old age in their youth, than which in particular nothing can be more effectual than abstaining from fermented liquors of all sorts, especially ardent spirits, for there is not one man in fifty, who has given himself up early to an inordinate excess in this beastly practice, lives to pass his fiftieth year. On the contrary, it is an incontrovertible truth, that persons who are brought up in mountainous countries, and have accustomed themselves to plain coarse diet, and have earned their subsistence by labour, have been generally observed to be the longest livers; and among the barren uncultivated woods and mountains of Germany, it is far from a rare circumstance to find the inhabitants to attain an age considerably beyond the hundredth year. Nor are we without instances in our own country of the very extended periods to which the vital fire may be preserved; one of the most extraordinary kind, perhaps, was that of Old Parr, who, by a life of abstinence and sobriety, attained almost an incredible old age, which, in the reign of Charles the Second, was found registered in the archives of their courts of judicature, so as to convince the most sceptical of its truth; but after he was sent for to court, and began to indulge in those luxuries, which before he was a stranger to, he soon died.

Having thus offered some few trite observations on the nature of fire, I proceed next to treat of another agent in nature most inseparably connected with our well-being, which is that of air, and which is the very foundation of that health it is the ardent desire of every one to obtain.

ESSAY II.

ON AIR.

THE air which we are constantly breathing, and on which health so much depends, as it respects its baneful or benign influence on the body, is a compressible and dilatable fluid, covering the surface of the globe to a very considerable height, as has generally been expressed by the term atmosphere. It is the principal medium by which animal life is supported, and so necessary for this purpose is this fluid, that an animal cannot exist for a moment without it, as is evident by placing them in an exhausted receiver of the air pump. It is a colourless, transparent, heavy and elastic substance, and in its common state is combined with a great variety of heterogeneous ingredients. It is by no means that simple elementary substance as was formerly supposed, but when divested of all foreign matters is a subtle aerial body, of a compound nature, adapted more or less to the purposes of respiration, as it approximates to a state of purity: and because its density is proportionable to its compression, its particles recede from each other with reciprocal force, according to the distance of their centres. That air was heavy, was first discovered by

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Gallileus, in making the experiment to what a degree of height water might be raised by the force of a pump, when finding that it could not be elevated higher than thirty-five feet, he concluded it arose from the counterbalance of the air's weight, and not from an imaginary vacuum, as by some persons had been previously supposed.

The aerial basis of the atmosphere, according to the recent discovery of chemists, consists of three different species of air, viz. pure respirable or dephlogisticated air, azotic or phlogisticated air, and of fixed aerial or carbonic acid air; the first seems to consist of about 27 or 28 in an hundred parts, the second in 72 or 73 in an hundred, and the last about one part only in an hundred. For the purpose of respiration and animal life, oxygen seems best adapted, and is more congenial with life than atmospheric air, and from its known efficacy in restoring persons apparently dead, or in a state of suffocation, by the celebrated Dr. Ingenhouz it was denominated vital air. Azote or corrupted air, by some termed phlogisticated or suffocative air, is perfectly irrespirable; it is produced by the change which atmospheric air undergoes in the process of combustion, putrefaction or respiration, whether these changes be effected either by nature or by art. The carbonic acid in its pure state is equally inimical to respiration as the azote, and is frequently very copiously supplied from mines, where its suffocating qualities are not only found very injurious to those who labour in them, but sometimes is so noxious as to produce instant death.

When the atmosphere is surcharged with any of the mephlitic gases, its effects are very injurious to the human body, and from the explosions of inflammable air, which is another species of mephlitic air, in mines, or opening old wells, vaults or cellars, which have been shut up for a long time, frequently

sudden death has been the lamentable consequence to such as have incautiously exposed themselves to its noxious and direful effects.

Air has an uncontrollable dominion over the whole vegetable, as well as animal, creation. Its agency is absolutely necessary towards the evolution of animalculæ, besides the mere existence of their ova deposited in a proper nidus. Chickens cannot be produced in an air pump, though none of the air be extracted, and it be even placed in a proper degree of heat. No animalculæ will be generated in meat when shut up from the contact of external air; and to hatch and impart a vivifying principle to them, the action of the atmosphere is indispensibly necessary.

This æther, which is the bond of union and preserver of nature from dissolution, is found to be also so necessary for vegetation, that no plant can be nourished, nor will any seed ever germinate which is totally excluded from the air. Deprive either of these of the genial warmth of the sun's rays, and shut them up from air, they soon wither and decay; for we may observe in summer, that the sun, when it is in its greatest exaltation, the whole vegetable creation is in its greatest splendor and glory. If then nature be provided by the Almighty with an element of such power and activity as enables it to overcome the strongest cohesions, it cannot be destitute of an equally powerful agent; and if we attentively examine into nature, we shall soon discover that this agent is none other than *God himself*, who created all things, and upholds them by his sole and absolute power; and therefore, to consider extension or nature to be God, as some materialists wish us to believe, is a position as absurd as it is profane, and cannot be presented to the meanest capacity without offering violence to our reason and common sense.

Without, however, entering into a more elaborate detail of this fluid, so absolutely requisite for animal life, I shall proceed to observe, that air may become corrupted, or rendered unfit for respiration, by various means; perhaps none are more calculated to effect this change than by a number of people being confined in one apartment, by the burning of fires, and a number of candles or lights, all of which have a most powerful effect in rendering it corrupt. The putrefaction of vegetable and animal substances is equally destructive of air; and had not nature contrived a means of restoring it, it would become altogether inefficient for the purposes to which it was originally destined. Dr. Priestley, a man of most profound talent and unwearied application, after employing a considerable share of time and labour on the subject, discovered that air, when rendered thus impure, and even mortal by the breathing of animals, was capable of being thoroughly restored by the vegetation of plants; and that, from this powerful agent, it might be so renovated as to become as fit for respiration as the same quantity of atmospheric air; and that these noxious effects are completely counteracted and preserved in a necessary state of temperature by this vegetation of plants.

The effects of hot, cold, and moist air are daily conspicuous to our senses. When the weather grows warm, the power of cohesion grows weaker, and the muscular fibres become relaxed. When the weather becomes cold, this power is increased, and the fibres are rigid and contracted, and even the hardest metallic substances, in common with others, are from the same cause proportionably altered in their dimensions: extreme heat will dissolve them, and extreme cold will harden them and render them so brittle, that large bars of iron may be snapped asunder after being exposed all night to an open air in a hard frost; and hence we may observe, that the coher-

ing density of all bodies varies with the degree of heat or cold to which it is exposed.

The difference of the weight of air which our bodies at different seasons sustain is very great. The whole weight which presses on them when the mercury is highest in the barometer; is equal to 39,900 pounds troy weight, and even under the least degree of pressure from the air, it is equal to 3982 pounds troy. These differences are capable of being measured by the mercury in the barometer; and from this experiment it is proved that every square inch of the surface of our bodies, is pressed upon at one time more than another, by the weight of air equal to three cubical inches of mercury. As then the body is necessitated to sustain this immense weight, even to the magnitude of a ton and a half at one time more than another, we surely cannot be surprised that our health by the various changes of weather should be considerably interrupted; and that frequently in a very sudden manner: indeed it is more matter of astonishment, that the frame of our bodies be not broken to pieces, and prove the constant harbinger of death. But such is the goodness and wisdom of the Creator, that when the resistance to the circulation is greatest, the impetus by which the heart contracts should be so too, and in proportion as the weight of the air increases, the lungs will be more forcibly expanded, the blood becomes better adapted for carrying on the different secretions, and the heart more strongly contracted. The motion of the blood towards the surface of the body, meeting by this pressure of air, a resistance will pass in greater quantity to the brain, where the weight being taken off by the interposition of the bones of the cranium, tends thereby to keep it in a state of equilibrium.

It is not, however, my intention to enter into a more minute chymical analysis of the peculiar component parts of our

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atmosphere, not considering here, that a very accurate investigation of that part of our subject would be of any very material advantage to the reader: the principal object I have in view, is merely, to treat of it as it respects the preservation of health; and therefore, under that impression shall proceed to give that information, in which all are undoubtedly peculiarly interested; though, perhaps, it is not so much the healthy as the valetudinary and infirm to whom a series of rules for their conduct are desirable: but, at the same time it must be noted, that *air* is so much connected with health and life, that it is impossible the animal functions can be properly carried on even by the most vigorous and athletic constitutions, where a due attention to it is treated with indifference or neglect; and although man in a state of nature is capable of bearing all the vicissitudes of weather and climate; although his stomach is capable of digesting most kinds of food, if its action has not been impaired by intemperance; and although he is capable of sustaining the severest bodily exercise and labour, when he has been early in life inured to it, yet it must be equally clear, that the man who has been nurtured in the lap of ease, and from his infancy reared with care and tenderness; or who having been brought up in a more hardy mode of life, takes up the notion of paying too much attention to the preservation of his health, will more readily feel the effects of the most trivial hardships, or be liable to take cold at every change of the air, and the least deviation from his accustomed rule of temperance, tends in a peculiar manner to induce some kind of indisposition.

Having premised these few observations, it will evidently appear, that to attempt laying down a set of rules as *universally* applicable to the state of every individual, would be a task altogether impracticable: nor can any such rules be derived from any experimental knowledge, which has as yet

been discovered. The best general process I can recommend my readers, is to advise each individual to study his own particular constitution, from which only he will be enabled to regulate his general mode of living, applying such rules as from his own experience and observation he finds suitable and convenient: and by such cautious means, he will be enabled to draw his conclusions, and discover those particular and positive effects, which the different states of the atmosphere produce on the human frame, and learn in what manner their influence will more or less retard or improve his health.

I now proceed to apply these few preliminary hints on air, in their reference to the production of diseases: and, first, it may be observed, that a *warm air* relaxes the solid parts of the body, and accelerates to a considerable degree, the force in the circulating fluids, whilst hot putrid air, the soriatic wind, &c. greatly weaken and relax the body. Lightning, which at this period is very common, frequently deprives those persons of life with whom it comes in contact; and when this happens, the body is speedily reduced to a soft putrid state. But *heat* operates on no part of the system so powerfully as on those tender parts we call the nerves, whose fluids being the most subtile of all others, are soonest and most easily dissipated. Hence the tender and infirm very materially feel the oppressive influence of hot, sultry weather; and thus it may be accounted for, why people who have weak nerves, are more especially liable to those diseases, commonly styled nervous, arising from relaxation and a preternatural degree of heat: such as hysteric and hypochondriac diseases, convulsions, diarrhœas, &c. If along with this heat, there be a combination of moisture with it, a disposition to fever, and those of the malignant kind will be generated, with all the tribe of putrid diseases: which opinion has been commonly espoused by physicians, both ancient and modern. But if the heat be

excessive, accompanied with moisture, it follows that the perspiration being too copious, the humours must be left dry and viscid, and unfit for circulation: the fibres being from this cause relaxed, and the cold following in the evening after a hot day, the perspirable matter is retained, the heat is increased, and thus are produced the various kinds of fevers: as agues, inflammatory fevers, pleurisy, peripneumony, &c.

When the common air abounds less with the elementary principle, it loses part of its elastic virtue, which is the cause of the quicksilver sinking in the barometer upon the approach of bad weather, which explains the reason of our finding the common air heavy, and considerably to affect the animal spirits. As it loses its elastic force without, it loses it also within us; whereby our natural strength is diminished, the circulation grows languid, the body altogether becomes dull and oppressed, the spirits sink and become clouded, the functions of the stomach are impaired; the patient complains of head-ache, sickness, and is peevish, and a great variety of other gloomy and disagreeable sensations are produced, too well known to need here a particular description, to those who labour under any of the diseases usually denominated among us as nervous, a very prevailing, and I fear increasing malady in the present day.

By cold air the human body is considerably contracted, and rendered much more compact. This is very obvious by observing that the same clothing which in summer can scarcely be put on, will in winter be much too large. This circumstance nature seems to have intended for the wisest and most salutary purposes, viz. that, in proportion as the external heat is diminished, the internal heat should be thereby increased. If the season be excessive cold, the weight and spring of the air are both thereby augmented, so much so, that the re-

sistance of the fluid parts becomes so great, that even the increased powers of the solids cannot overcome it. The blood also in winter is much disposed to inflammation, and becoming in some measure obstructed in its passage through the lungs, produces coughs, catarrhs, pleurisy, inflammation of the lungs, inflammatory sore throats, rheumatism, &c. Nevertheless, cold may be rendered less hurtful to the body, and the risk of incurring these dangerous complaints in great measure obviated, by attention to a proper degree of clothing, and taking particular care that a due proportion of exercise be not imprudently neglected.

There is no change throughout nature more pernicious, either to animal, vegetable or mineral bodies, than that of quick transitions from freezing to thawing, from extreme cold to unnatural heat, and *vice versa*. Animal food in a freezing air, is preserved for an incredible length of time, but as soon as this is succeeded by a sudden thaw, it speedily enters into a state of putrefaction, and is thus converted into a soft, dissolved flabby mass. Hence it is observed, that irritating coughs are never more prevailing, than when such sudden alterations in the weather take place, and when the air, after being cold, suddenly becomes warm and damp, and after that assumes a considerable degree of coldness again; as that constricts and restrains the action of the external organs, and thereby a smaller quantity of matter is thrown off by perspiration, and a greater quantity of fluids lodged upon the internal viscera, which become loaded and obstructed, there is at no time a greater danger of consumptive complaints being prevalent; a disease which baffles all the united endeavours of the faculty, and has long and deservedly been the opprobrium of medicine.

To enumerate the destructive effects of extreme cold on

the human frame, might appear here superfluous. There are, however, instances of persons in the most northern countries dropping down dead suddenly without any previous symptoms of disease, the cause of which must evidently appear to arise from a sudden constriction of the whole vascular system, and a coagulation in the smaller vessels of the lungs, which are now exposed to the naked contact of a most severe cold atmosphere. In persons of the most healthy constitutions, by the effect of extreme cold, the loss of various parts of the body is well known. The toes, the lips, and fingers, are frequently so far exposed to its effects, as to induce a mortification, by contracting the solid parts, and condensing the fluids.

But although damp and moist air also relaxes and weakens the animal fibres, and impedes the circulation of the fluids, yet the animal spirits are not less liable to suffer from this species of air than the body. In damp gloomy weather we experience that kind of torpor or ennui, so well known to most of the inhabitants of this island. With the loss of energy we lose our gaiety, and then follows that distressing train of symptoms, so well described under the appellation of hypochondriasis, or lowness of spirits. The insensible perspiration seldom fails to meet with obstruction in this kind of moist weather, and generate that chain of complaints, the natural consequences of such an excitation. But the most dangerous consequences have been experienced by exposure to a moist night air in hot climates, and when this humidity of atmosphere is accompanied with an extreme degree of heat, its deleterious effects are of the most awful tendency; for in the first instance, whilst the vital energy is impaired by moisture, heat, when excessive, by opening the pores, causes the more ready admission of it through the skin, and disposes the body to dissolution and putrefaction; and from causes analogous to these, may be attributed, that dreadful mortality by fevers,

&c. which we know most commonly happens in some of the West India Islands during the hot season, and which have been the grave of so many thousands of brave Europeans.

A *dry cool air*, from its elastic principle, has a peculiar tendency to produce alertness of body and serenity of mind; for this reason, it is so successfully recommended to persons of a low, nervous, or hypochondriac temperament; nevertheless, when air is too dry, it produces effects equally unfavourable, with that which is too warm; that is to say, the body is too speedily deprived of its moisture, and hence we find a disposition in it to become thereby enervated. It is in that temperature of air which is moderately dry and not too warm, that a person finds himself most comfortable, and such is unquestionably most proper, and best adapted to all the purposes of health. We cannot, therefore, be surprised, if in warm climates, by extending the action of the exterior organs, relief should be afforded to such as are troubled with lowness of spirits, &c.

The calm serene atmosphere of the South, produces the happy effects of a never ending spring, and enables nature to expand her powers. Travelling, therefore, to the South of France or Italy, will often impart to invalids of this description a new degree of happy existence.

It was an observation of the immortal Hippocrates, that the vicissitudes of the seasons is the prolific parent of diseases, and this appears very reasonable, when we consider the great alterations and effects produced on the animal economy by these circumstances. It is therefore from the great and sudden changes, which are so peculiar to this climate of ours, as from a warm to a cold, or from a light to a heavy air, that exposes both the valetudinarian as well as the healthy to such

injurious effects. It is air, says Hippocrates, which supports life, and directs the progress of diseases, and it therefore becomes natural for us to consider a pure air, as one of the greatest sources of health, and an impure one as the greatest source of diseases. Again, air will become more or less wholesome, according to the particles with which it is impregnated from the exhalations of certain substances, whether animal or vegetable. There is no constitution which is not more or less affected by this circumstance, for we know from experience, that even the fragrant odours of flowers, will sometimes operate so very powerfully on the nervous system, as to produce a sudden syncope or fainting, so that from the various particles which are continually floating in it, we may justly attribute the origin of those disorders, which otherwise we can with difficulty account for.

In populous cities and towns, many things conspire to render the air polluted and contaminated, for wherever great numbers of people are crowded into one place, there the air cannot fail of becoming unwholesome; and offensive smells among other things, and the exhalations sent forth from putrid, animal, and vegetable substances, all tend to add to the same destructive effect. Not only are these effluvia inhaled by a number of people labouring perhaps under all kinds of diseases, but being likewise loaded with smoke, the putrid fumes of dunghills, slaughter-houses, &c. the sick of every disease, diffuse more or less, their infectious matter through the air, and every individual has his share in rendering the atmosphere foul and corrupted; all which circumstances must tend to render the air here much more unwholesome than the pure salubrious air of the country. Added to this, the mortality so often prevailing in camps, among other causes, as exposure to night air, heavy dews, and neglect of cleanliness, may most commonly be said to arise from the

same prolific source. If then fresh air be necessary for the healthy, of how much greater importance is it to the sick? A moderate distance, therefore, from town is the most desirable place for air and exercise.

These sudden changes in the weather are often easily predicted before they happen, by the ominous sensations which the infirm or valetudinary feel; and hence it happens, that many persons of this description are enabled to foretel when any changes of these are about to take place, by the pains of body which on such occasions they generally feel; for the blood being more rarefied against the approach of wet weather, or high winds, will forcibly press upon the sensible membranes, and on any remarkable alteration, pains will be felt, to which before they were utter strangers.

But our bodies are also very materially affected by *winds* as well as air, either by their motion, or as they serve to convey to us the different qualities of the air, already pointed out. Wind, which is nothing more nor less than air put in motion, is of two kinds, according as they are capable of continuing in the same course, or variable from an infinite number of causes. A long continued *north wind*, as it has the effect of purifying the air from noxious vapours, is the most wholesome, rendering the air serene and dry, and at the same time imparting to the human body vigour, elasticity, and activity. Salutary, however, as in the general scale this wind is, it is nevertheless inimical to the tender frames of some people, who, from too great an exposure to it, are affected with coughs, fevers, and inflammatory complaints of the viscera.

A *south wind* generally debilitates and relaxes the body, and disposes it to catarrhal affections. *Moderate winds* are very salutary, as they produce the same effects on the

body as an increase of the air's weight; and hence respiration is more freely carried on, and animal bodies enjoy a better share of health while the air is agitated by them; but from a stagnation of air, they become indisposed, and breathe with difficulty. Air, thus in motion, dissipates from our atmosphere those noxious vapours and particles which interrupt our health, and is followed by a cooler air, more friendly to it; but when wind is so much increased as to arrive at its greatest degree of violence, its effects on the human frame are very similar to those which are produced by air that is too gross and heavy.

The seasons also are known to have a very considerable degree of influence on our bodies, as it respects the propagation of diseases. The vernal and autumnal quarters are supposed to be the most unhealthy, because the perspiratory particles are not only retained in the body, but have a peculiar tendency inclining to putrefaction. At these periods, therefore, the influence of the air, in our variable and uncertain climate, tends to restrain the action of the external organs, and necessarily throws a redundancy upon the internal organs, which frequent vicissitudes in the direction of the flux of humours are the predisposing causes of periodical complaints, as asthma, ague, gout, &c. each derived from same the source; and hence it has been remarked by medical authors, that each of the seasons is visited by certain classes of distempers peculiar to itself: thus, in summer, putrid and bilious disorders are found most to prevail; in winter, inflammatory diseases; and in spring or autumn, those of the catarrhal, mucous, or stomachic kinds.

In the spring we see the vegetable tribe begin to rear their heads, the trees blossom and fructify, the feathered race greet the approach of summer with notes of joy and delight, and all this general life and vigour arise from the motion and heat

communicated by the genial warmth of the sun. The feelings of the rational species are in unison with the general festivity; the spirits feel the exhilarating influence of the glorious sun, and the enlivening prospects of pleasure and delight. At this time the blood begins to circulate more freely in the veins, and puts on some appearance of a plethora. For this reason, perhaps, was introduced that prevailing, though pernicious, custom of letting blood at certain seasons of the year, which as it has a dangerous tendency, and is always injurious to the healthy, cannot be too forcibly reprobated. Attention to a change of clothing, according to the vicissitudes of the seasons, is always attended with peculiar advantage to those who are not of the most robust constitution, as well as a suitable diet. The spring season is in general the most healthy; spring and summer are most congenial with the delicate frames of children and young persons; the summer and beginning of autumn agree best with the aged; and for those of the middle age, the close of autumn and beginning of winter seem best adapted for the enjoyment of health.

It has already been remarked, that nothing is more likely to render the body disordered, than sudden transitions from heat to cold. Suppose, for example, a young person leaving an assembly-room in an universal glow of heat and perspiration from previous exercise, and in that state exposed to the piercing air of a cold, frosty night, what may be expected to be the consequence of such temerity, but that of laying the unalterable foundation of some fixed and deadly disease? It is from causes such as these, among many others equally conspicuous, that we are the helpless spectators of the progress of that dreadful malady called consumption of the lungs, making such uncontrollable havoc among our youth of both sexes.

It may, nevertheless, be frequently necessary and highly ad-

visible to exchange an unhealthy atmosphere for one that is supposed healthier. Vast numbers have found a quick recovery from indisposition, arising from the corrupted air of a town, who have removed in time to the more uncontaminated air of the country. It will not, however, appear prudent hastily to condemn the air of one place, because it does not agree with certain individuals: the natural habits of such should be taken into the account, for that air which is found injurious to one person, may happen to be the only one in which another can exist with comfort. Whatever be the temperature of the climate, the air in general may be denominated healthy, provided it be pure and clear, and occasionally visited with the agitating and renovating power of the wind; whilst, on the other hand, an air that is gross, or strongly saturated with animal, vegetable, or mineral substances, must be highly deleterious to every constitution.

After all our endeavours to discover which air is most wholesome to live in, we can only draw an equivocal inference on the subject. The best criterion from which we can form our conclusions, is from the healthy appearance and longevity of the inhabitants of certain districts. In high mountainous countries, which are frequently visited by rough winds, as well as in small sea-port towns, we find many of the inhabitants whose lives are protracted to a very extended period. Again, in small villages thinly inhabited, we find the aged to bear a much greater proportion than in large manufacturing cities and towns, where multitudes are stowed together in confined houses or apartments, stewing in warm air, which from this cause has been deprived of its vivifying principle, and has an unqualified tendency to relax the nerves and fibres, and give a loose texture to the blood. The most rational mode of accounting for this fact must be, that the air is more pure, and less liable to be corrupted, added to

which, their plain and simple fare very much contributes to the same end. With an increase of population, luxury and indolence commonly keep pace; every act and stratagem is devised to pamper the vitiated palate, till at last, proof against such a stimulus, the appetite is lost, and an atrophy or some fatal complaint closes the scene.

A few general Rules on the Subject of Air, &c.

In the selection of a residence, which may be denominated healthy, a few general rules present themselves for our attention. We should give a decided preference to one built on an eminence, neither exposed to the extreme piercing cold of winter, nor to the highest point of the sun's heat in summer. It is requisite also, for the purpose of health, that it be of proper dimensions, for low confined rooms are very injurious, particularly when inhabited by large families. In the summer, an apartment pointing to an eastern or northern aspect is most eligible; whilst in the winter, that which admits the warm rays of the sun in a southern aspect, being the most dry and cheerful, should be preferred, as having a favourable influence on the spirits as well as health.

It is a circumstance deserving particular notice, that the local situation of a residence, although in itself healthy, is not exempt from the evil effects of a corrupted atmosphere: that is, the soil itself may be free from objection, yet it may be rendered obnoxious by the exhalation of different effluvia, conducted to, or blended with it, from contiguous situations, by the force of the winds. Thus, for example, a dry elevated soil may become inimical to health, and extremely unwholesome, from its vicinity to stagnant waters, ditches, or marshes. As the air as well as the water commonly partake of the qua-

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lities of the soil, by the absorption of its saline and mineral particles, it is requisite that the springs and wells adjacent should be properly examined, for it may most commonly be concluded, that where the water is good, the air is of consequence salubrious, and if the water be pure and tasteless, then the air is free from any offensive smell, which is the most certain mark of its being pure; and, that where sugar readily enters into a dissolved state, the walls stained and changed in colour, metals acquiring a verdigris or rust, such are very presumptive evidences of the situation being damp, and consequently unwholesome.

The higher parts of a house are unquestionably the most salubrious in any situation, therefore the sitting-room, if possible, should be above the ground floor, and that frequently ventilated by the seasonable admission of a proper current of air; and if, in addition to this, ventilators (which are small moveable wheels, made of brass or tin) are applied to some of the doors or windows, these, from the pressure of the external air, will be kept in constant motion, and are very admirably adapted to the purpose of procuring fresh supplies of pure air.

Notwithstanding, however, I have so much insisted on the absolute necessity of purifying the air of rooms, by opening the doors and windows, it should be understood, that even this requires some degree of discrimination to regulate with propriety. It should neither be done early in the morning nor late at night; neither is it safe to leave the windows of a bed room open all night during the sultry heat of the summer months, unless it has been, as it is with some people, a constant practice. It never can be resorted to without hazard, and in not a few instances has it proved of the most serious consequences. The pores being naturally open by the heat of the day, and con-

siderably augmented by the warmth of the bed, during sleep, perspiration is unsuspectingly checked, and acute diseases thereby induced. Nothing, in short, can be of more importance to the welfare of the human frame, than that it respire a pure and wholesome air; nothing is more likely to promote this desirable end than avoiding the too common custom of making houses, window-frames, and doors what is called *air tight*, and permitting frequent currents of fresh air to pass through all the rooms.

Green plants and flowers arranged before a window are not only ornamental, but, if they do not emit too strong a fragrance, have their use also. In serene summer weather, even strewing green plants and boughs of trees in a sitting-room, while the sun's rays are upon them, and removing them as the sun declines, is attended with beneficial purposes, and are found to have a salutary influence on valetudinarians; especially such as are affected with occasional fits of asthma, as a portion of *vital air* is by this means exhaled, and thus gradually introduced into the lungs by breathing.*

Planting large trees very near a house whose foliage is thick is very injurious, for they not only obstruct the access of air and light in the day-time, and thus induce a dampness in the rooms, but there is exhaled from them during the night a very unwholesome effluvia. Eight or ten yards distant from the house is the nearest that trees of this description should be planted; and where that is complied with, the air is not excluded by them; they then form an agreeable shade from the sun in summer, and the exhalations emitted from them at that distance are not only pleasant, but salutary.

* See Beddoes and Priestley on the subject of Factitious Airs.

Sleeping in bed-rooms where a large quantity of fruit is deposited is extremely unhealthy : this is a very common thing in country places, and elsewhere with persons who sell it. From the fragrant exhalations of it, the air is soon impregnated with a portion of inflammable gas, transpiring from it, and hence sudden faintness frequently happens, especially to females, and persons of delicate nerves. For the same reason the noxious effluvia, arising from such shops as contain oils, tallow, flesh meats, vegetables, &c. are very unwholesome.—Those who deal in such a variety of articles, should, at any rate, avoid sleeping where they are kept.

Nothing can be more dangerous, nor more frequently produce fatal consequences, than the vapour arising from the burning of charcoal, particularly in small confined rooms. Sulphuric particles are copiously emitted from it, which fill the atmosphere, and being inspired, cannot be again expired; hence the motion of the blood-vessels is retarded, the lungs are obstructed in their action, the blood itself, penetrating into the head, brings on vertigo, listlessness, and violent pains in the head, and, not uncommonly, death is the consequence, before even the person suspects his being in danger. Those who are under an absolute necessity of using it in their occupations, even with every precaution and attention, seldom enjoy a perfect good state of health : and when the necessary precautions have been unattended to, innumerable accidents of the most fatal kind continually take place. Many are the instances where persons confined any length of time over the fumes of charcoal have dropped down dead suddenly, from the constriction of the air vessels of the lungs, which, I think, a very powerful argument to plead, with people of this calling, against carelessly exposing themselves to such a deadly poison.

Heat and Cold.

I have already had occasion to remark, that the exposure of the human body to the extremes of either heat or cold, is productive of very injurious effects, which common observation and experience have most amply elucidated: anxious to impress this truth on the attention of the reader, I trust I shall not lie under the imputation of an unnecessary tautology, in again repeating, that by an immoderate degree of *heat* the fluids are dried up, or altogether wasted, the solids become weakened and elongated, and hence follow costiveness, indigestion, thirst, &c. and from the same cause, the nerves and lymphatic system, with their respective functions, become deranged and obstructed.

It is moreover a well-attested fact, that the inhabitants of temperate climates, who are visited with neither excessive heat nor cold, are the most healthy, and attain to a greater age than those of the southern countries; from which it will be obviously deduced, that the body will be enervated by immoderate warmth by an over quantum of clothing, by keeping strong fires in our sitting rooms, and particularly by sleeping in very heated apartments, or on soft feather beds, the latter of which retain their heating quality much longer than is commonly imagined. In measuring this circumstance, so as to be in harmony with our other endeavours to avoid indisposition, I would lay down as a general maxim, that the temperature of a sitting room should not exceed 60 degrees of Fahrenheit's thermometer, nor the bed room 50, that being about the medium temperature of our climate, and that in which the several operations of the body seem to be performed with alertness and facility.

There has been long a prevailing and equally erroneous idea entertained by many parents and conductors of public seminaries, that to habituate children to bear cold weather only is more congenial with their health; and that to endue young people with the most desirable qualities of body, is only attainable by exposing them to the cold; but whatever degree of advantage may, in this respect, be imparted to the constitution, it may certainly be taken as an incontrovertible fact, that long continued and repeated chills, by unnecessary exposure to cold air, will, in the first instance, enfeeble, and in the second, induce a susceptibility to the operation of those powers by which violent diseases are superinduced; for although man inherits a capacity of inuring himself to the support of great degrees of heat as well as cold, yet it must be strikingly evident to most people, that a middle course betwixt these extremes is most advantageous. The true principle therefore will be found to consist in gradually inuring the habit to cold, by which means it may be enabled to bear a severer application of it.

The grand secret for preserving the body in a due equilibrium of health will appear therefore to consist in protecting it from such effects as have a tendency to obstruct the perspiratory matter. In the sultry days of summer, every precaution should be taken that the body be not overheated by unnecessary exercise. In the autumnal season, as the mornings and evenings begin to get cool, the clothing should not be of too light a nature; the accommodating this circumstance more to the rules of fashion than to the vicissitudes of the weather, particularly in our variable climate, has been more the cause of laying the foundation of incurable diseases, than almost any other beside. That kind of clothing which has been adopted in the summer season, should be exchanged for what is warmer

pretty early in the autumn, and in short, to be constantly making such alterations in our dress, as the varieties of the weather require.

With respect to the warming of rooms by means of fire, that is a circumstance which should be principally regulated by our feelings, more than by attending to the particular season of the year. If in the temperate days of autumn the room feels colder than the external air, this points out the necessity of having a moderate fire ; nor will this be less required even in the summer months, if the weather be cold and damp.—Some people set their faces rigorously against this precaution, because it is not a general custom to have fires till the month of October, and would sooner shiver on some weeks longer, however great the sacrifice of their feelings ; whilst others, from caprice or prejudice, as readily fall into the same error. Such obstinacy, however, generally meets its merited punishment, for catarrh, rheumatism, and many other painful chronic complaints are the frequent consequences, which may probably continue to harass the sufferer through the remaining part of the year.

It is incalculable what a number of diseases are brought on by the vicissitudes of temperature only : these, though undoubtedly excitable from other causes, by frequent and reiterated attacks, injure particular organs, which, after a certain lapse of time, destroy the harmonious movements of the system ; and when the vital organs are the seat on which they happen to fall, and are so unmanageable as to bid defiance to all art, they must, of necessity, have a fatal termination : from which it may be deduced, that we should guard against consequences so serious in their nature, by paying due attention to keep the body warm and comfortable by proper clothing.

Seeing then that air is the principal medium in which the animal life can be carried on with comfort and satisfaction, and that without it there would be a speedy termination to our existence, it would certainly be unwise to withdraw our bodies too much from the bracing effects of *cold air*, and constantly to live in a temperature of too much heat. In this respect also, to act in conformity to the *dictates of nature* will surely be our safest guide ; and in the same degree as the warmer weather is progressively succeeded by a state of greater *cold*, we should inure ourselves to the effects of these changes. By such means, especially if we neglect not the proper use of exercise, we shall neither feel the cold unpleasant, nor cause an obstruction of the necessary perspiration.

Lastly, as our bodies are thus readily acted on by every sudden change of weather, as from heat to cold, and its opposite, every precaution should be resorted to, which might tend suddenly to check perspiration. For this purpose it should be a determined rule to avoid all rapid transitions from one extreme to another, and never to remove from a room highly heated to a fresh or cold air while the body remains warm, or till the necessary change to a warmer dress has been previously made. If at any time the body should be violently heated during the warm weather, it is sure to suffer by going into vaults, cellars, ice-houses, cold bathing, or sitting on cold stones or damp earth : many lingering and incurable maladies have been brought on by such imprudence, nay, present death has, in some instances, been the consequence of such transgression. Pulmonary consumption, that most destructive of maladies, which makes annually such dreadful ravages among the young and middle-aged, has been frequently induced by these apparently trifling causes.

It is much to be desired, nay, perhaps, as the progress towards science becomes more matured, it may take place, that, from the effects of factitious airs or gases, means may be discovered that we are not as yet acquainted with, capable of affording some remedy against this formidable destroyer of the human species: which, in the bloom and vigour of life, shewing no mercy to age, rank, or sex, consigns such immense numbers to a premature death.

Something of this kind was instituted by the late Dr. Beddoes of Clifton, a man of great abilities and unwearied research; to whom, in the hope of obtaining relief, vast numbers languishing under this miserable complaint anxiously resorted; but whether any of them experienced advantage from his pneumatic institution I have not been accurately informed. I am, however, inclined to believe, that, like all other attempts to check its career, his philanthropic labours were totally inefficient.

Such as are desirous of avoiding this deadly complaint, must studiously shun those dangers already hinted at, by which it appears to be most readily induced: for there can be no doubt, but that far the greater number of consumptive cases have originated from neglect and carelessness; and when once the seeds of it are sown in the human body, it leaves the unhappy object the victim of his own indiscretion. Such practices are as injurious as they are fatal, and no language can be adopted sufficiently forcible to deprecate them, or paint them in adequately glowing colours.

ESSAY III.

Food and Drink.

 TEMPERANCE.

HEALTH is the greatest blessing which man can enjoy in this life; and yet so very prodigal are too many of it, and so much are mankind in general disposed to follow the bent of their sensual pleasures, that one would be almost led to suppose that length of days was a curse instead of a blessing; and melancholy as the reflection is, how few do we find inclined to take warning from the example of others. The brute creation, except such as are under human management, seem generally to enjoy the full period of existence allotted them; and among uncivilized and barbarous nations, where the inhabitants live according to nature, we find that they chiefly die of old age.

Death must be the unavoidable portion of every inhabitant of the earth; it is that sentence which was passed on man on the introduction of moral turpitude, when he fell from that purity in which he was primarily formed; but the impetuous and ungovernable conduct of human beings has rendered it an evil more obnoxious in its effects than it was originally intended it should be. The greatest part of the black catalogue of diseases which ravage and afflict human na-

ture is the undoubted offspring of tenderness, the luxury and corruptions, introduced by the vices and refinements (falsely so called) of civil society; that tenderness or delicacy which is injured by every breath of air, and that emaciated state of constitution, the effects of debauchery and intemperance. Neither of these was intended we should possess by the all-wise and merciful Author of our being, it being impossible but that they must lay the foundation of manifold sufferings, and ultimately bring us to a premature and miserable end.

Notwithstanding these are truths which few will be bold enough to enter their negative against, yet, how few seem to regard them in a way conducive to their interest? Amazing apathy, incredible indifference! what gross infatuation, what *ignis fatuus* of the brain has taken possession of the human intellect, that people run with avidity to their certain destruction! Were these things the mere chimeras of speculative theory, unsubstantiated by fact, the wonder might in some degree cease, and people might think indifferently and act accordingly; but when it is a most obvious truth, that indolence and luxury have dealt out destruction among mankind, more fatal in effects than the sword, pestilence, or famine, and that, like a slow poison diffused through the atmosphere, they have a continual tendency to extirpate the human race, or, to say the least, are the prolific parents of diseases, how astonishing is it that men will be calm and unconcerned spectators of such scenes, and continue to eat and drink their own destruction!—"O temperance!" says Sir William Temple, "thou physician of the soul as well as body, the best guardian of youth and support of old age, the tutelar goddess of health and universal medicine of life, that clears the head and cleanses the blood, that eases the stomach and purges the bowels, that strengthens the nerves, enlightens the eyes, and comforts the

heart; in a word, that secures and perfects digestion, and thereby avoids the fumes and winds to which we owe the colic and spleen, those crudities and sharp humours that feed the scurvy and gout, and those slimy dregs and humours, of which the gravel and stone are formed within us; diseases, to which mankind are exposed, rather by the viciousness than the frailty of our nature, and by which we often condemn ourselves to greater torments and miseries of life, than perhaps have been yet invented by anger and revenge, or inflicted by the greatest tyrants upon the worst of men." And yet so little notion have mankind of this virtue, that, from the cradle to the grave, it is one continued scene of intemperance; and, with the poet,* we may justly be prompted to exclaim:

“ Look round the habitable world,—how few
Know their own good, and knowing, it pursue.”

The appetite is first vitiated upon the mother's breast, if happily it be the lot of a child to be nursed by the mother, with that food which Providence first designed for it, as the only one proper for it, as well as being conducive to the mother's health. Although milk is the natural food appointed for infants, yet a child, from various causes, frequently sucks more than its stomach can easily digest; in such a situation even, it is seldom left undisturbed, for either the mother or nurse will be continually cramming it, till indigestion produces crudities, wind, colic, watery, slimy stools, and vomiting of viscid, sour, feculent matter.

To remove these symptoms, entirely brought on by such imprudent treatment, immediate recourse is had to medicines or spices, which commonly aggravate the distress; the ill-

concocted food, with its impurities, is hurried into the mass of blood, the juices become vitiated, and a fever supervenes; and, lest death should not arrive speedily enough, the child is confined in a hot room, and perhaps smothered with a load of clothes, that one would be led to imagine they were anxious to destroy its life rather than preserve it.

The seeds of many diseases are sown in the cradle: and if as much violence was done to children in the next stage of life, very few, I believe, would ever reach the age of maturity: but at school they live rather temperately, use a good deal of exercise, and enjoy the advantages of free air, which tend to correct the progress of those complaints so industriously formed during the infant state.

How many children have fallen victims to luxury and repletion! Some people ignorantly suppose that children, because they are delicate, require to be pampered with strong food to strengthen them; whereas nothing can be worse adapted to furnish them with real strength and nourishment. When a child grows up a little, and gets the direction of himself, it happens at a dangerous period, when the blood circulates freely, and the whole body is vigorous: then the passions break forth, and the spirits, being liberated from what he considers the greatest restraint, burst out furiously, and will, at all hazards, be gratified. Then the youth glides rapidly down the current of vice and intemperance, and with avidity he drinks deep of the deadly cup. At the altars of Venus and Bacchus he offers up his constant sacrifice, as the only things worth esteeming; and leaves other enjoyments to the insensible, the stoic, and the dotard.

In this career of dissipation he proceeds, till some friendly disease arrests his progress, or death cuts the thread of life.

If, however, under the influence of friends or business, he is prevented from pursuing his wild course so furiously, the effects upon the constitution will be more progressive, though not less certain : his strength insensibly fails him ; his spirits become irregular and unequal ; his stomach being disordered, the appetite is depraved, and a variety of oppressive symptoms steal imperceptibly on him. Having no relish for plain wholesome food, he then has recourse to high-seasoned cookery, rich sauces, and every species of palatable poison his disordered stomach suggests, with drink equally poisonous, which he greedily flies to, to consume his devoted and emaciated frame.

There is no period of life in which the effects of intemperance are so injurious as in youth. Young people, if left to nature, seldom want the stimulus of luxury to excite their appetites ; their fibres want not the spur of wines or strong liquors ; the natural warmth of the blood and juices sufficiently invigorate them by their natural heat ; consequently, such liquors, instead of acting as cordials, only tend to inflame the blood and oppress the spirits. By the use of these liquors they are very liable to feverish attacks, or some degree of inflammation, particularly if the constitution be not naturally good : the blood and juices are by such means filled with acrid and inflammatory particles, and the elasticity of the fibres destroyed, by giving them a greater degree of stimulus than is necessary to excite their vibrating force. Hence, for such person, all kinds of wines, and strong fermented liquors, should be avoided as poisons ; and those who run counter to such advice will, sooner or later, feel the effects of their imprudence.

The stomach is the grand reservoir in which the food is first deposited, and is from thence distributed throughout all parts

of the body, which is composed of both solids and fluids. The fluids are a heterogeneous mass of salt and other particles, enveloped in phlegm and oil, and derive their nourishment from the more volatile and subtile parts of our aliment. The food ferments in the stomach, and from an imperfect digestion may become vitiated. This may take place from two opposite causes: the food may be crude, slimy, flatulent, and sour; and from a relaxed state of the stomach, or being retained there too long, becomes putrid and over-digested. In this septic state it readily converts what is taken into the stomach into its own nature; from which an acrid, windy, bitter, and putrid chyle is generated, which imparts an unpleasant fetid odour to the breath. This kind of indigestion and unhealthy chyle produces an ill-conditioned state of the blood, which may generally be considered as the primary cause of most complaints, and is more or less attendant on all.

With respect to chronic diseases, ninety-nine out of a hundred are, I believe, brought on by intemperance or errors in diet; and, as to hereditary complaints, whilst physicians have been disputing about their existence—some advocating the idea, that no such thing ever existed; others contending, that almost all our miseries are entailed on us by posterity—in the fervour of their zeal for supporting their favourite hypotheses, running into the most opposite and extravagant theories, they seem to have wandered equally from the subject, and left the truth betwixt the two extremes.

That there is *no* constitutional tendency in the human body to disease, but that they are *all* of our own seeking, I cannot for a moment acquiesce in; or that the gout, scurvy, consumption, and many other deplorable maladies, are entirely and unavoidably hereditary, and not to be prevented by any human

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endeavours, I must equally dissent from. That intemperance is the fertile source of illness, whether it respects eating or drinking, we very well know; that there are constitutional tendencies to disease is most obvious, both from reason and experience; that such parents as are naturally weak and relaxed, cannot beget children of robust and vigorous constitutions, is also as evident as that, on the contrary, strong and robust parents will naturally have healthy children.

We frequently see people inherit delicate constitutions and weak appetites from their parents; but that there are certain latent seeds of disease lurking in the blood, as some of these furious enthusiasts would have us suppose, which must of necessity be conveyed to children by their parents, is not only repugnant to common sense, but is contrary to the laws of the animal economy.

Although weak constitutions, and such as have a natural tendency to particular diseases, require a stricter attention to temperance to keep them in health, yet, where this is duly complied with, the most dangerous chronic complaints may commonly be prevented. Intemperance is the grand destroyer of our health and comfort; and, in a general sense, may be denominated the author and origin of all bodily ills. There are men, however, whom we frequently observe run into every species of excess with impunity; while, on the other hand, the most trivial indulgence in others will prove the certain cause of the most unmanageable disorders.

It is observed of epicures and gluttons, that though youth and a strong constitution support them for a time, yet at last they are either cut off unexpectedly, or find the symptoms of old age with many kinds of diseases attack them very early in life.

The daily accumulation of indigestion seldom fails of ultimately inducing some chronic disease; if the stomach be filled with a greater quantity of food than it can bear, its coats are overstretched, and rendered incapable of exerting its digestive powers, the food being longer retained than by the laws of the circulation it should be, and undergoing a disorderly fermentation, occasions crudities, sour eructations, vomiting, listlessness, stupor, and head-aches; for the stomach having a very intimate connection with the brain and nervous system, which reciprocally act on each other by sympathy, whenever one of them is disordered, the other seldom fails of partaking in the calamity.

The prevailing error into which many fall, is that of eating too much at once. *Hippocrates* observes, that "if a man eats sparingly, and drinks little, he brings no disease upon himself;" and *Haller* very justly adds, that, "a moderate quantity of food nourishes the body best." It is astonishing how small a quantity of food nature really requires for her support; and what sprightliness, vivacity, and freedom of spirits that person enjoys, who lives temperately, and eats but a moderate quantity at a time. "Whoever (says *Sydenham*) would have a clear head, must have a clean stomach;" and when we have reason to apprehend the approach of ill health, it may frequently be averted by rest, abstinence, and cooling drinks, by which means the most violent diseases may very often, if not at all times, be prevented.

Animal Food.

Aliment or food, without which animal life could not be supported, is of two kinds, solid and fluid; these have usually been denominated meat and drink; the former of which it is my intention here briefly to treat of. In the early ages of the world, mankind, by the way of food, confined themselves to the

natural productions of the earth, as we learn from history, both sacred and prophane, such as plants, roots, &c. but soon after began to feed upon some of the fluid and solid parts of animals, in conjunction with fruits and esculent vegetables, variously combined and prepared by art : whether or not, at this era, a proper reflection as to the relative qualities of the substances they employed formed a part of their system, is not my purpose here to determine ; suffice it, however, to observe, that it is our bounden and incumbent duty as rational beings, to make ourselves in some measure acquainted with the nature and properties of these substances, which so essentially contribute to our existence.

An animal body would be very little superior to an inanimate mass, were it not for the infinite number of actions it must necessarily perform, and these it is enabled to effect by means of its contracting muscular powers ; but as, by their attrition, vast numbers of separable parts are thrown off, by which these fibres become daily and hourly exhausted, fresh supplies of nourishment are required for keeping up a due proportion of strength, and rendering the blood adapted to the purposes of life. From hence we may infer, that if the necessary food was withheld, to repair the loss the fibres sustain by their daily exertion, the body would be weakened, and the blood reduced to a state of impoverishment.

In order, therefore, that we might not neglect a supply so essentially necessary for the preservation and restoration of our bodies, the all-wise and bountiful Author of our existence, and only source of our happiness, has furnished us with two appetites, the one to solids, which we call hunger, and the other to fluids, which we denominate thirst. What these appetites are, are better known by experience than from any definition which can be given of them ; and as they are in-

tended as a stimulus for the gratification of the cravings of nature, so would they be the surest guide in directing us, either in the quantity or quality of them, did it not frequently happen that men, by their irregularities and intemperance, have vitiated and debauched them; and hence arises that satiety or superfluity, from which indigestion with its concomitants are induced.

Notwithstanding there will be found a considerable difficulty in prescribing a certain quantity of food as a general rule; as what is necessary for one, may be too much for another, and too little for a third; yet there must be a relative proportion between what is taken in and what is discharged from the body. If a great quantity be made use of, the same quantity must be lost without any additional advantage to the body; and that which was required for the formation of chyle, and replenishing the blood, as is the case when moderate meals are used, that part from which the alimentary particles are abstracted, is suddenly dissipated, without imparting its restorative influence, by which means the system becomes considerably reduced and debilitated. It is, however, to be observed, that the opposite extreme is no less pernicious; for eating too little, weakens the growth to bodily perfection, and so diminishes the digestive powers of the stomach, by depriving it of its due share of support and nourishment, as verifies the observation of Hippocrates in one of his aphorisms, that "the consequences of a slender diet are more fatal than one that is more plentiful; wherefore it is a dangerous maxim for any one in health to adopt."

Nature, attentive to our wants, is ever watchful over us for our good, and lends us all the assistance which rational beings can be supposed to stand in need of; for, in the regulation of this circumstance, we shall perhaps be better directed by the impulses

of our appetites than by any other method, for our stomachs in general are the best arbitrators on the subject. The powers of digestion are adapted to the want of blood in the blood-vessels: if they are not sufficiently full for the purposes of health, the appetite is great, digestion strong, and much blood is formed. If they be properly filled, there is little appetite, small digestion, and less blood is created. Lean people, therefore, have in general good appetites and perfect digestion; fat people have small appetites and weak digestion.

It is not only in a healthy state that this idea holds good, but even when the body suffers under any kind of indisposition: take, for example, a person labouring under an ardent inflammatory fever, what is he most solicitous for on this head? why, cooling drinks and subacid fruits: the greatest luxuries of the table, to such a one, are absolute poison, and his stomach nauseates even at the recollection of them. Select, on the other hand, another labouring under an atrophy, or general state of debility, what will nature direct his choice to in the article of nutriment? why wines, cordials, and nourishing animal food; and what can be so well adapted to both these states?

It will therefore clearly appear, that, after all our endeavours to lay down a code of general rules, we shall find that there must be many objections to them, and that nature, or instinct, very seldom fails in directing animals of every description to that species of aliment which appears most congenial with the situation in which they stand.

Every kind of substance which is appropriated for food ought, at least, to possess one common property; that is, it must contain the principles of chyle, though certainly some substances are more easily converted into this restorative fluid than others. If there be not due care taken to select such food as admits

of an easy transmutation into chyle, or that a task too difficult in the work of digestion be imposed on the stomach, the whole system will languish and become decrepit, on account of those parts which are necessarily wasted not meeting with adequate supplies, and consequently renovation; and hence the region of the stomach will be harassed with a perpetual succession of distressing symptoms, and life become so cheerless and uncomfortable as to be scarcely supportable.

Nor does the different nature of the food make any considerable alteration in the substance or various actions of the body. The athletic and hardy husbandman relishes, with peculiar zest, that species of aliment to which he is accustomed, which the luxurious and delicate would spurn at altogether; for, in order that the stomach should have its due portion of exercise, which it as much stands in need of as any other part of the body, it requires that the quality rather than the quantity of the food should be improved, and in proportion as this is effected, the more strength and vigour will this organ acquire. No position has been more clearly demonstrated, by an infinite number of examples, than the permanent and occasional connection subsisting between exertions attended with a vigorous circulation, a good appetite, and unimpaired digestion; this will be more or less accomplished, as it acquires strength, from a proper secretion of chyle, and renovation of waste.

Having already demonstrated that the human body does not suffer so much from food used too copiously, as when it is taken too sparingly; that the effects of the former are soon dissipated by moderate exercise and gentle evacuations; and that a decay of strength and energy is the certain consequence of the latter; I proceed to make some remarks on food, as it respects its quantity.

As it has been a commonly received opinion, that health and longevity are only attainable by a spare and abstemious diet, and as I know that such a sentiment, if universally adopted, would be productive of incalculable mischief, I think it necessary to caution my readers against too great an anxiety for putting this rule in universal practice. In the general aggregate of cases, examples of this kind are, I imagine, but rare; and those who have been successful, have been persons who led sedentary and inactive lives, whose waste of the animal spirits is but small, and stand in need but of scanty supplies, corresponding to such exhaustion.

Notwithstanding, however, that people who live abstemiously are unfit for the fatigue of business, or any laborious pursuits, yet, if their exercise be not disproportionate to their strength, and they have been long accustomed to such a system, their lives are frequently more lengthened than the strong and robust. Men of a pale complexion and delicate habit, frequently live to be older than those who are more florid, and exhibit external marks of firmer health. The method of accounting for this is, that the fluids in the last are more volatile, and thus more susceptible of the impression of external agents; their solids also being of a more tense and rigid texture, will, upon all occasions, be liable to greater resistance and elasticity of fibre, which dispose the body to diseases of the acute and inflammatory kinds, and by this means are more readily operated on, from their motion to a more speedy decay.

Such persons as use most exercise require a generous and free diet; but such as lead sedentary lives should be cautious of excess either in eating or drinking. *Hippocrates* observes, that the aged require less food than those of a middle age; and from attention to this circumstance, of lessening the quantity of food as he grew older, it was, that *Cornaro*, the celebrated

epicure of Venice, attained to such a very advanced age, who, notwithstanding the uninterrupted gratification of his sensual appetites till he reached to 80 years, lived in full health, as well as in the perfect enjoyment of his faculties, at the very protracted period of one hundred and twenty years.

Those who are in good health, lively and active, require a much larger quantity of food than the infirm. In all cases where the pulse is preternaturally weak, and the digestive powers not impaired, a nourishing diet will be clearly indicated, as well as in disorders of the hypochondriacal and dropsical kinds; but it must not be forgotten that such a regimen should be accompanied with a proper degree of exercise. However, in acute or inflammatory complaints, as well as in the paroxysms of intermitting fevers, such a one should be applied as is of the more spare and slender kind.

It may also be known, that the quantity of aliment used has been too great, when the stomach, after meals, is distended with flatulence, attended with difficulty of breathing, and headache, with a tendency to stupor and drowsiness. A man in perfect health should always rise from table with some degree of appetite; if either the body or mind be less capacitated for action after eating than before, that is, if a man be thereby rendered less fit for labour or study, it may be taken for granted he has exceeded the quantity congenial with health.

We are all so much the creatures of custom and habit, that we are frequently at a loss to discriminate between the impulses of nature and those which depend on fashion or a vitiated habit. Hence custom has introduced all kinds of incentives to excess; that, so far from being considered in the class of intemperance, they are by most people thought to be not only salutary, but necessary. Such effects as these cannot be cured

by medicines, so long as the sufferer continues intemperate ; they may lead him on a little to bear the effects of his obstinacy for a short time, but at last his evil courses destroy the vital powers, and terminate his miserable existence.

Every kind of flesh meat being in a perishable state, and having an alcalescent putrid tendency, soon becomes putrid in the stomach, and in that state is easily and quickly digested, but is apt to ferment too much, and run too rapidly into a state of corruption. Animal food enriches the blood, increases muscular strength, stimulates the solids, accelerates the circulation, and disposes the body much more to fevers and inflammatory complaints than vegetable food. Too liberal use of it therefore is improper, especially in hot weather, at which time it is peculiarly inclined to run speedily into a state of putrefaction ; hence it will be noticed, that in putrid or inflammatory complaints, or in any case where the blood is preternaturally heated, animal food should be avoided, and the patient confined altogether to a diet of vegetables, which is milder, easier digested, less stimulating, and does not load the system so much.

It is principally from inattention to this circumstance that we find the scurvy and acute diseases so very prevalent in this country ; and from a want of a due proportion of vegetables with our animal food, that its inhabitants are so disposed to indigestion, and many other disorders. The effect of this is very manifest in the navy, where, in long voyages, there is a scarcity of vegetables.—What ravages the sailors suffer on this account, and how soon the scurvy, &c. is dissipated when they return on shore, and have a free use of vegetables !

In the regulation, however, of this circumstance, much will

depend on the season of the year, the state of the weather, as well as the peculiar temperament and constitution of the body. In the summer season, in warm climates, to plethoric habits, and such as are disposed to acute diseases, or when, from a prevalence of putrid miasmata, the blood is inclined to a state of dissolution, or to persons who live sedentary lives, or to delicate nervous constitutions, much animal food or fermented liquors are very prejudicial. On the contrary, a much larger proportion is required where the climate is cold, the constitution vigorous, the fibres tense, and much exercise is used ; still, however, this rule is liable to some exceptions.

Animal food being kept a moderate length of time exposed to the external air, renders it more tender, more grateful to the palate, and more easily assimilated in the stomach, than the flesh of animals recently slaughtered ; and a much greater quantity of the former can be eaten without inconvenience than the latter. Flesh meat, however, should by no means be so long exposed to the influence of the air as to intrench at all on its sweetness, for as soon as its volatile alkaline parts are so much developed as to affect the smell, it becomes very prejudicial to the human body, as well as obnoxious to the palate, and, affording no good chyle, is on all accounts very inimical to health : this, however, can only be regulated by the season of the year, and the state of the atmosphere.

Animal flesh being boiled with water, communicates almost all its virtues to the broth : this is a very admirable form for exhibiting this species of food to the invalid. The stomach, which, in a state of debility, would be incompetent to digest meat in a solid form, can make use of it thus prepared with peculiar advantage ; and containing all the nutritious particles of the meat, is very easily digested, pleasant to the taste, and at the same time affords a very considerable share of nourish-

ment. Indeed this species of food seems to approximate the nearest to the quality of the juices by which the body is nourished : nothing then seems so applicable for this purpose as jellies, broths, soups, &c. all of which afford a great quantity of oil, with an alkaline salt, with which quality it is found by experience the blood is very fully impregnated.

Notwithstanding food compounded by various rules of art, and rendered more agreeable to the palate by aromatic spices, particularly those imported from the East and West Indies, may be most congenial with a depraved appetite, and best adapted for the gratification of the epicure ; yet, that which is more simple, provided it be easy of digestion, and affords a proper quantum of chyle and nourishment, is undoubtedly preferable. Eating of a variety of dishes is unwholesome, and creates internal commotions in the stomach. Simplicity of food requires no physical alteratives, and exercise, with temperance, prove the best cathartic. Nice cookery is a dangerous bait, and often allures the most wary and cautious. By a variety of high-seasoned dishes, the stomach is crammed with a heterogeneous mass exceedingly pernicious in its effects ; it allures us to exceed the bounds which nature has prescribed for us, and by such means the stomach labours under all the sad effects of repletion.

The luxurious artifice of cookery, and swallowing wine after every mouthful, lengthens out the appetite, till the stomach has a task imposed on it which it can with great difficulty, perform : how such loads of high-seasoned food, with inflammatory liquors, can be supposed to be carried off, I cannot imagine, when we see how short and precarious is the state of human life, even with the most rigid and scrupulous attention to temperance. Such persons may truly be said to suck in poison with their daily bread ; whilst our very refined art of fashion-

able cookery converts into an absolute poison that which Providence has destined for our nourishment and support.

“French cookery (observes *Dr. Cadogan*), wherein even luxury herself is debauched, has sent an inconceivable number of persons to an untimely grave ; and those who have strength of constitution sufficient to stand its sudden effects, have fallen a sacrifice to the gout, scurvy, pulmonary consumption, and many other deplorable chronic diseases.” To eat therefore of one dish only, and that most agreeable to our palate, is certainly most wholesome, and best calculated to guard us against the inconveniences of repletion.

To eat when the body is heated, is very prejudicial ; and exercise soon after eating interrupts digestion, and occasions crudities ; as well as the eating one meal before the former one was properly digested ; nor should custom ever induce us to eat at all, if we do not feel a real appetite. To fast now and then is certainly very proper ; and when we have transgressed a little, we should find it much to our account to live a day or two on water-gruel, or very sparingly on some wholesome food. Persons who sit much, ought to eat but little ; a light supper of milk or vegetables is most salutary, and that two hours before bedtime. Persons who eat no supper, and but little breakfast, find a keen appetite at dinner, and cannot refrain from eating too large a quantity, and in this they consider themselves as acting according to the rules of temperance : in this notion, however, they labour under an egregious mistake ; the stomach is commonly relaxed by too long fasting, and therefore at proper hours something should be taken for the digestive powers to work upon ; it also prevents wind and vapour, which are apt to be very troublesome.

It is essentially necessary, in the cooking of our food, that it

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be not over-dressed, as the juices are injured by the action of too strong a fire, which renders the food hard, and difficult to digest. When meat is roasted or boiled too much, it becomes rancid, and from a mild quality it acquires an acrimony, which is extremely unwholesome. By too much broiling its salutary nutritious juices are lost; and when dried or long hardened in salt, the subtile nutritious parts either fly off or are fixed; this is the reason why all salted provisions are with difficulty digested, the animal oil being rancid or entirely impregnated with salt, which the powers of the body can by no means extract, and is productive of no good chyle: in this sense only it is that salt is prejudicial.

With respect to salt itself, so far from being unwholesome, it is, as it were by instinct, in very general use: not only does a moderate use of salt render our food more palatable, but certainly more nutritious, and better adapted to the digestive organs. Even in brutes, *Dr. George Fordyce* has observed, where salt is mingled with their food, it causes them to be more thriving and healthy: for people who eat much animal food, which has a natural tendency to a quick solution, salt corrects, regulates, and checks its too speedy concoction; it detains it longer in the stomach, and gives it time to elaborate it, and convert it into a healthy chyle; whilst wind, inflammation, and all kinds of putrid diseases are prevented by a moderate use of it.

Acids, both animal and vegetable, ought to compose a very material part of our food; nothing is more wholesome; they strengthen the stomach, promote digestion, qualify and temper the food, prevent putrefaction, correct flatulence, cool the blood, regulate the circulation, and have an extraordinary tendency to strengthen the digestive organs. Lemons, limes, &c. may therefore be freely used by all ages and constitutions.

The crystallized acid of lemons is a very useful and elegant preparation ; it keeps good in all climates, and will supply the want of these vegetable acids, when scarce or out of season. With respect to vinegar, which is a volatile acid salt, generated by repeated fermentations, it is both a mild and grateful acid, and, if used with propriety, is by no means possessed of any noxious quality, but, as an acescent, is well calculated to prevent a putrefaction of the fluids, and in some measure strengthens and constringes the solid fibres. When, however, it is taken too copiously, and frequently repeated, it undoubtedly produces destructive consequences to the stomach. It has been commonly used by persons inclined to corpulency, with a view of prevention, and by females in particular, to promote a delicacy of appearance : but there are not wanting instances where a fatal atrophy has followed such imprudence, or, to say the least, the digestive organs and chylipoetic viscera are ruined and destroyed.

Among the fluid kinds of food much in use among us, we may reckon milk as very wholesome and nutritious. *Pythagoras*, who, from motives of conscience, denied his followers the taste of meat, or the juices of animals that had life, as having the supposed effect of rendering them more perfidious and ferocious, permitted the use of this aliment, in imitation of nature, who has appropriated milk for the sustenance of infants, and by instinct imparted to them a relish for it. From this it may be inferred, that good milk is not only very nutritious, but admirably adapted for the use of such persons whose powers of digestion are enfeebled, either by dissipation or disease. Milk, however, in its pure state, is sometimes apt to disagree with some people, on account of its being too heavy, viscid, and windy ; in this case it is best to be taken dilated with water or gruel, which, in all chronical cases, such as scurvy, consumptive tendency, where a diet of milk and vegetables is desirable, is

very necessary in assisting the cure, as partaking both of the animal as well as vegetable qualities. Skim milk is very unwholesome.

Butter newly churned possesses all the qualities of expressed vegetable oils. In bilious habits it is prejudicial, but otherwise it is a very nutritious substance. Being eaten to excess it produces nausea, troublesome eructations, with an excretion by vomiting of a bitter rancid oil; from which we may observe, that too great a proportion of oil in our aliment weakens the solids and induces indigestion.

Cheese being nothing more than the coagulable part of milk freed from the serum and pressed firmly together, is in any state an unwholesome food, and the more common and poor it is the more difficult it is of digestion. When it has become rank from age, it is then in a putrid state, and should be eaten in very small quantities when used for the purpose of assisting digestion, when the stomach is weak and requires a stimulus. For persons of the more laborious class, who are also very robust, it may agree very well, and may be eaten with impunity. Cheese has been said to assist the stomach in digesting other matters, but is itself very difficultly digested. This is much increased when it is toasted, and therefore in that state is very unwholesome. After being used in any quantity, from its viscosity, it occasions a weight at the stomach, obstructs the smaller vessels of the intestines, and disposes the body to costiveness.

Beef in general affords a strong degree of nourishment, especially to such as use much labour or exercise. The flesh of a bullock about the middle age is to be preferred. Such as are fattened after they are worn out and unfit for labour, are scarcely digestible by the strongest stomachs, and very

little nourishment is obtained from them. Beef being always in season is not so likely to cloy the stomach as many other kinds of animal food; persons, however, of an irascible or impetuous disposition should use it but sparingly. People in common, who live principally on animal food, have keen and carnivorous appetites, and frequently eat more than nature requires.

Pork is generally considered a nutritious kind of meat, though apparently the most alkalescent, particularly for the robust and laborious; therefore a person should not eat too much of it at one time: as in their fattening, hogs are kept in filthy styes, wallowing in their own nastiness, and excluded from air and exercise, affording only depraved juices, their flesh is to some constitutions far from being wholesome. In a vitiated state of the fluids, as scrophula, and habitual eruptions on the skin, swine's flesh should be refrained from; and for persons disposed to coughs, catarrhs, affections of the breast, or indigestion, pork is equally improper.

Veal, as containing a great proportion of mucilage and earthy particles, though inferior to beef as it respects its nutritive quality, is a kind of aliment well adapted to a feeble stomach, as being light and easily digested, and to such as are not liable to the effects of labour, will afford a pleasant and nourishing kind of diet; for convalescents and sick persons it is preferable to the meat of the same animal when arrived at a more advanced age. There can be no doubt but that a very considerable portion of its nutritious parts are lost by the repeated bleedings a calf undergoes previous to its being killed, with keeping it fed on chalk, and other processes equally cruel,* for the purpose of giving the flesh a white and

* Every friend to humanity must feel disappointment and regret at the rejection of the bill for the prevention of wanton and malici-

delicate appearance; by the whole of which treatment, though more agreeable to the eye, it is certainly rendered hard, dry, and not so easily digested. On account of its tendency to viscosity, persons disposed to phlegm should abstain from its use, but as it is found generally aperient, and not of a heating, irritating nature, it may be allowed in febrile and other cases where meat is admissible, and where the strong and vigorous kinds of animal food would be highly prejudicial.

The lean of meat is much more wholesome than the fat; and fresh unmelted butter, than salt or melted. Gross oil, animal fat, and butter are not only the most unconquerable part of our aliment, but most difficultly digested and fermented, especially if meat be much roasted, and the butter melted by the fire or mixed with sauce; then they are very apt to turn rancid on the stomach, particularly when it does not possess sufficient power to throw them off. They also relax the stomach and clog the mouths of the absorbent vessels.

The gravy of meat has been considered as productive of gout, scurvy, &c.; this is certainly an erroneous opinion; nothing, on the contrary, is so nutritious, and, where animal food is admissible, is always proper. The lean of fat meat is more nutritious and easier digested than that of poor or ill-fed. Young meats in general, as before remarked, are not so nu-

ous cruelty to the lower animals, recently introduced to legislative notice by the philanthropic exertions of *Lord Erskine*—an attempt which, though unsuccessful, does the greatest credit both to his head and heart. How any individual could stand up and vindicate the ferocious conduct of such monsters as disgrace human nature, I am at a loss to conjecture; when we need only walk the streets of London, to be the frequent, though unwilling, spectators of the most horrid scenes of barbarity to defenceless animals.

tritious, nor so easily digested, as beef or mutton; and all smoke-dried or hung salted provisions, are not only hard of digestion, but, from keeping, are deprived of some of their finer and aromatic parts.

Animal substances of all kinds seem to suffer considerably in their quality, by being impregnated too strongly with salt. Meat, thus preserved, becomes so rigid and tough that it can sometimes hardly be separated by mastication; added to this, nothing seems to produce more deleterious effects on the body than too long a perseverance in salted provisions: hence the ravages made on our seamen by that dreadful malady, the scurvy, which, for want of a proper mixture of vegetables and antiseptics, is known so much to prevail.

Poultry, as chickens, capons, turkies, &c. are a most excellent kind of food, and if not kept till their flesh is rendered tough and hard from age, as they have commonly the advantage of living in the open air, and taking plenty of exercise, afford a good and salutary quantity of nutritious fluids. These are less heating than wild fowl, but are not quite so readily digested. Woodcocks, snipes, plovers, pigeons, hares, rabbits, venison, &c. are light on the stomach, but are heating, and inclined to putrescency: these are excellent food in cold phlegmatic habits, where the digestion is weak, and in dropsy and many other complaints of the same class, are recommended as extremely beneficial. Geese and ducks are very juicy nourishing food, but not being very nice in their feeding, as well as heavy, should be used sparingly.

The custom of taking a dram after gross food is very injurious: it accelerates that which disagrees with the stomach into the blood, and has a tendency to render it foul and inflamed. A glass of cold spring water, after such a meal, is much more

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salutary : it is a very erroneous opinion, that digestion is promoted by ardent spirits ; they rather tend to impede it than otherwise.

Eggs are heavy nourishing food, and soon become putrid in the stomach.

The membranous, ligamentous, and tendinous parts of animals, though of more tender appearance than the muscular parts, yet, from their containing more viscid juice, are less soluble in the stomach than food of a more firm texture ; for this reason, tripe, calves' feet, cow heels, &c. are more difficultly digested than either beef or mutton. For the same reason, too long a continued course of slops prepared from such substances, materially tend to weaken and relax the stomach : they are at all times injurious, especially in sickness ; and in health, call for more exertion of the digestive organs, than an equal proportion of solid animal food.

Fish, having a tendency speedily to run into a putrid state, are, of all other kinds of food, the least wholesome and nutritious, and where animal food is improper, ought to be prohibited.— They are, however, more or less acted upon by the digestive faculties, according to the different kinds of water in which they live ; and as their fat is very indissoluble, and apt to turn rancid in the stomach, are very improper in fevers, or any other sort of complaint, where there is a disposition in the system to be heated. The white kinds of fish are considerably the lightest ; but the viscid kinds, as eels, salmon, trout, smelts, are heavy on the stomach ; therefore, in any complaint where there is a viscid texture of the blood, as in asthma, or where the stomach is weak, they are extremely prejudicial. They should all of them be used but sparingly, at all times, with a draught of plain spring water immediately after.

It may not, however, be improper to add, that fish caught in salt water are more wholesome than those taken from ponds and standing lakes ; and those less replete with fat and oily particles are lighter and more readily assimilated.

By roasting, we understand the dressing of meat either by a naked fire, or in a close vessel without any addition of water. Meat being exposed to the open fire, forms a hard brown crust on its surface, which keeps the juices strongly agitated by the fire, and by that means has a greater tendency to an alkaline state. The fat becomes more yellow, and the whole is rendered more luscious, and easy of digestion.

Frying, is the dressing of meat in a pan over the fire, with butter or oil. Meat thus cooked is very improper for the purpose of digestion : such kinds of food ought to form the least proportion of a salutary diet, and in invalids produce the most injurious effects ; for from the violence of the heat and its effects, the saline and oily parts of the meat become rancid and acrimonious. In whatever manner, in short, that meat is dressed, care should be taken that its juices be not injured by the action of the fire, for then only it is that animal food is in the highest perfection for eating, easiest digested, and its juices the most mild and salutary for the human body.

A strict attention to the vessels made use of in the preparation of our food, is absolutely necessary for the preservation of health. Aliment cooked in untinned copper vessels, as being easily corroded, even by common water, but more particularly by any kind of acid, is known to excite the most dreadful vomiting, and other very alarming symptoms. Dr. Falconar, in his ingenious treatise on the poison of copper, among other things, remarks, that vinegar is extremely liable to acquire a noxious impregnation from brass or copper, in the

preparation of pickles, in most of which, a fine green colour is reckoned a test of superior goodness ; this is often intentionally heightened, by throwing in a few halfpence. Dr. Falconar refers to many modern celebrated systems of cookery, in which a brass, bell-metal, or copper saucepan is particularly recommended, when a fine green colour is required ; but however gratifying this may be to the eye, the stomach seldom fails of being materially injured by them : in short, we should be very particular in keeping all kinds of metallic vessels used for culinary purposes very nice and clean, for when either meat or vegetables are suffered to remain too long a time in them, exposed to the action of a moist air, the surface of the metal will be corroded, and form an absolute verdigris, than which a more poisonous or deleterious substance cannot exist. It were much to be desired that the use of copper pans could be exploded altogether from the kitchen, and those of tin or iron substituted in their stead.

Verdigris is one of the most active and violent poisons in nature, and though we do not perceive its deleterious effects immediately, yet it is certain, that however small the quantity of poison may be, when it is regularly repeated at every meal, much more fatal effects must be produced by it than is commonly supposed. Our food receives its portion of poison by the use of copper pans and dishes : the brewers mingle poison in our beer, by boiling it in copper : our pickles are rendered green, by an infusion of copper ; and salt is distributed to the people from copper scales covered with verdigris ; so that by some or other of these mediums, we are positively swallowing death with almost every thing we use.

The ingenious author of " Serious Reflections attending the Use of copper Vessels," published in London, asserts, that the frequency of paralytic and nervous affections, apoplexies, ma-

nia, and many other dreadful disorders which suddenly attack us, without any ostensible cause, or which have a tendency to the gradual abolition of our vital faculties, may, in a great measure, be attributed to the insensible introduction of poisons with our food, which, being intermixed with the blood and juices, tend to render them vitiated. Whether or not this may be an exaggerated account, certain it is, that many a person has, unsuspectingly, lost his life from eating victuals cooked in copper vessels, not carefully preserved from the rust, or kept well tinned. On this account it was, that the senate of Sweden published an edict, in the year 1753, prohibiting the use of copper vessels, and allowing the use of none but what were made of iron, throughout their fleets and armies.

Sauces are such mixtures as are used for the purpose of exciting the appetite, promoting digestion, and rendering the aliment more agreeable to the palate. Some of these consist of salts of different kinds ; others of vegetable acids, as wines, vinegar, lemons, Seville oranges, &c.; these being a mild species of acid, have their efficacy in giving relish to our food, and by correcting its rancidity, prevent that nausea and sickness which from a too free use of gross meat we find so frequently occur. By their aid, if kept within moderate bounds, digestion is also forwarded, whilst the aliment during the action of the stomach on it, is preserved in a sound state. The salt of the muriatic kind is that which enters into almost all culinary preparations, and is a powerful agent in resisting a putrefactive tendency, there being very few kinds of food in which it does not enter in a certain degree.

Spices and aromatics are such vegetable substances as impart an agreeable flavour to our food, and though they contain but little nourishment, yet, if used with moderation, are serviceable in the work of digestion. Of these some are the indigenous

product of our own soil, but the greater part now in use are brought from warm climates, where their stimulating effects on the stomach are more required. Spices are less prejudicial in summer than in winter, but as they abound with a highly pungent volatile oil, the stimulus of which on the stomach, when used to excess, is sometimes very injurious, they have a tendency* to agitate the nerves, and stimulate all the solid parts to more frequent contractions; they therefore, from this cause, prove very heating to the body, and should be scrupulously avoided in all febrile or inflammatory affections.

Vegetable Food.

In the primitive ages of the world, before the use of the plough was invented, mankind lived entirely on the fruits of the earth; and even since these early periods of time, many persons have subsisted the whole of their lives without eating any animal food, or drinking any thing but water. Such is the custom, even at this day, with many nations, particularly those of the savage kind; and the Brachmans, a most acute sect of Indian philosophers, who, from the peculiarity of their habits, were denominated by the ancient Greeks, *Gymnosophists*, and were remarkable for their strict morality, never admitted the use of any kind of food that had lived, but confined themselves altogether to vegetables. *Pythagoras*, *Zoroaster*, and other men highly renowned for their philosophic attainments, as well

* It is in Europe that spices are used to the greatest excess, and as we may *a priori* conceive that nature never intended their use, in the proportion they are at present adopted by us, we cannot be surprised at the long train of ills which follow such imprudence. It has been pertinently observed, that the best quality of spices is that of stimulating the appetite; and the worst, to destroy by insensible degrees the tone of the stomach and intestinal canal.

as the Therapeutists, uniformly adopted the same plan; and not only were they, as well as their followers, remarkable for enjoying a good share of health, and attaining long life, but their minds were equally fitted for meditation, and the prosecution of science.

As, however, from the mechanism of the teeth, and the structure of the stomach and intestines, man seems adapted to all sorts of food, the most proper course will evidently appear in the present day to consist of a medium betwixt the two extremes, health seeming best supported by a due mixture of animal and vegetable aliment. That food must be most wholesome which approximates nearest to the gelatinous nature of those parts which in a healthy state compose the animal body, and which contains but few feculencies or gross feces, is free from acrimony, without possessing any powerful taste or smell.

With respect to those substances which form that part of our aliment called vegetable food, those made from the several sorts of corn, prepared by fermentation, with a due mixture of water, seem to be the basis of this species of food; and have, on this account, obtained the emphatical appellation of the staff of life.

Wheat-flour possesses a viscid quality; that which is most wholesome, is in the state in which it comes from the mill before it is separated into fine and coarse; for, in the extremities of the grain, there is a sweetish honey-like juice, which is of an aperient cooling nature, and corrects the astringent quality of the heart of the kernel. For hard-working people, however, the finer flour is more substantial, and is therefore by such to be preferred.

The use of bread is universal from the earliest account of time; this ardent desire for it seems to be implanted in

man by instinct, and pointed out to him by nature as that species of nourishment on which he is very materially to depend for his support. Bread, then, is the most nutritious of any sort of vegetable or farinaceous food, on account of the copious quantity of mucilage contained in it. Much, however, in this respect will depend on the sort of grain from which it is made; that made of wheat is, of all other kinds, the most nutritious, especially if the flour be well freed from the bran; but still, by this means, it produces a viscosity or slime, which obstructs the intestines, is digested with more difficulty, and disposes the body to habitual costiveness. In an unfermented state, few stomachs can digest it without considerable efforts, though persons who labour hard, and whose stomachs require something hard and substantial for their exercise, are in the habit of eating it in this state rather with advantage than otherwise.

Leavened bread, or such as has acquired an acidulous taste by a slow fermentation of the dough, is cooling, antiseptic, and light on the stomach; it serves to assimilate and mix our food properly, regulates digestion, and will commonly agree with the weakest stomach. The better it is fermented, the more easily it is digested: for, as digestion is nothing more or less than the reduction of our food into particles sufficiently minute to enter the lacteals, so the work of fermentation is only an intimate division of the mass, whereby the cohesion of its parts are obviated, and thus, being rendered less viscid, is converted with a greater facility into a healthy chyle in the stomach. It has a very powerful influence in correcting the putrescency of animal food, and is, therefore, indispensable for those who eat much flesh meat, which is too much the case in this country.

The unprincipled conduct of the London bakers, from mo-

tives of covetousness, have led many of them to a practice which is very prejudicial to health, which is that of mixing considerable quantities of alum with their bread, in order to give it a whiteness which in a natural state it never possesses. The astringent quality of the alum usually disposes those who eat it to an obstinate costiveness; to obviate which inconvenience, an adequate quantity of jalap is added, which clearly points out the reason why bread sometimes acts as an astringent, and at others as a purgative. Bread thus adulterated is uncommonly pernicious to the tender stomachs of children, and to this cause only we may attribute the severe gripings and frequency of stools after being fed with pap made of this sophisticated bread. Although the having alum found in the dwelling of a baker is punishable by law, yet the system of police in this respect, as in many others, is very defective, and these miscreants go on sometimes for years without detection, though no pecuniary fine can be adequate to so heinous an offence. Corporal punishment ought surely to be inflicted on the wretch who would deliberately thus trifle with the health and existence of the community.

It is a circumstance well worth attending to, that bread eaten before it be one day old seldom fails of disagreeing with or lying heavy on the stomach. When bread is used quite new, it is very difficult to deprive it of its glutinous and viscid tenacity, added to which it is very apt to engender flatulence; but when otherwise, it is easily soluble in water, without being viscid or gelatinous; and, being in that state easy of digestion, is a very proper species of food for debilitated stomachs, the infirm and convalescent, as well as every age and constitution; and for the same reason also it is, that panado, bread-puddings, &c. agree better with those persons than those made of meal not previously fermented. What is commonly called hasty-

pudding, or that preparation of farina termed milk-pottage, on some of which the children of the poor are almost constantly fed, is on many accounts very pernicious diet, particularly from the length of time it is sometimes boiled before it is used; this process renders it as tenacious as an absolute glue or size, and on this account it is that we find these children so frequently afflicted with distended bellies, irregularity of bowels, alternate fits of purging and costiveness, rickets and distorted limbs, and sometimes gripings so severe as to throw them into convulsions. These distressing symptoms being the effects of such pernicious food, will evidently appear to be much easier removed by a proper change of diet, than having immediate recourse to medicine, which, under such circumstances, would be fruitlessly applied.

Dough, by the process of baking, is freed from a great part of its superfluous moisture, and at the same time discharges the empyreumatic vapour occasioned by the fermentation. By degrees the fire forms a hard crust upon the surface, which, from being more dried, is more easily digested, but more heating and less nutritious than the crumb. If it be baked a second time, in the same degree of heat, that constitutes what is commonly called biscuit, which, if kept free from insects, is capable of being preserved sound and fit for use for several years, even in very hot and moist air, under the equator, where iron easily corrodes. Bread prepared in this manner, notwithstanding its hardness, readily dissolves in water, without becoming glutinous, and is of all other sorts of bread the lightest for the stomach, and in all respects the most wholesome. Finally, the more fully fermented our bread is, the more nutritious, and the more easy of digestion it is; for, by the effects of the leaven, the tenacious oils of mealy substances are broken and subdued. Having passed through this state, bread

is a very proper and beneficial sort of nourishment for man, tending in a very material degree, from its acescency, to correct the putrescency of animal substances.

Pastry of all kinds, especially when eaten hot, are extremely unwholesome, because their lentor and mucosity are not subdued by fermentation, or any other method by which they become lighter food.* Flour this way prepared, as in pies, tarts, batter and suet puddings, dumplings, &c. all contain a large quantity of air, which distends the belly, generates flatus, colic-complaints, and obstructions of the alimentary canal. All unfermented pastry, therefore, is very inimical to the powers of the human stomach, requiring great exertion from them to subdue and assimilate it into nourishment. People

* Along with milk custards, cream, and some sorts of sweetmeats and confectionary, laurel leaves have been used to give them an agreeable nut-like flavour; and for the same purposes, a distillation from them has been mixed with brandy and other spirituous liquors, in order to give them the flavour of Ratifia; but after the sudden death of two persons, who some years since paid their lives for drinking a distilled water from these leaves, several experiments were made with it, as well as an infusion of them, upon dogs, and communicated by Dr. Madden, and afterwards repeated and confirmed by Dr. Mortimer, when it appeared that both these preparations induced convulsions, palsy, and death.

The laurel of the ancients, or the *bay*, is, on the contrary, rather of a salutary tendency than otherwise; but the common laurel is a plant of a very destructive kind, and, taken in a large quantity, is a most formidable and potent poison. If, however, it be administered with due caution, and but in very small proportions, the leaves of this plant may be productive of no bad effects, and therefore, for culinary purposes, if restrained within the bounds of moderation, may be so continued with impunity. The bitter parts of the plant, in which all the noxious quality of it is supposed to reside, appear to be of a similar quality, and sensibly different in degree from the common bitter almond, or the kernels of stoned fruit. A nice attention in the use of this plant will in all cases be certainly necessary.

in general should be cautious how they indulge in dainties of this sort, even in the strongest health; but for weak, inactive, valetudinary persons, such kinds of food can scarcely be digested at all; it may be subdued and divided in the first passages, so as to enter the lacteals, yet it cannot be broken sufficiently fine, so as perfectly to assimilate to the other juices, to correct their putrid tendency, and repair the decays of the body.

The second class of vegetables consists of the leguminous or podded kinds, such as beans, peas, lentils, tares, vetches, &c. In most of these there is a strong solid gluten or mucilage, affording a rich nourishment well adapted to a vigorous stomach; but having scarcely any aromatic parts, and containing also crude parts, which are not easily assimilated, but remaining in the stomach undigested, are frequently injurious to the whole alimentary canal. In weak stomachs they are apt to breed flatulence, as well as indigestion; and, like other farinaceous substances, give a viscosity to the water in which they are boiled; and for such persons, afford but a gross and improper nourishment. For this reason, among others, split peas, or those deprived of their husks, are always preferable to the whole. This class of vegetables, however, in general contains a considerable portion of fixed air, and is therefore frequently disposed to induce costiveness, as well as flatulence.

The third order of vegetables for culinary purposes comprises the various kinds of salads, herbs, and greens, as lettuce, endive, purslain, cabbage, spinage, &c. Here we may behold with wonder and gratitude the bounty of Providence, in providing for the wants of all its creatures; and how watchful over our health! In summer, when the use of animal food is not only unwholesome, but the stomach in a great measure

loathes it, nature supplies its place with an infinite variety of the most choice and salutary vegetables, which at this season are the lightest as well as the most wholesome food we can make use of. With respect to the nourishment afforded by this class of vegetables, their proportion of it is but small; their principal use seems to consist in counteracting the effects of animal food, so as to prevent its too rapid progress towards a putrefactive state, and in being of a cooling aperient nature, from their containing a great portion of acescent juice; and from their solvent, softening, and laxative nature, are well calculated to relieve the bowels and preserve the stomach from that nausea inseparably connected with a too-free use of animal food. With regard to the quantity, we can hardly transgress if there be not a superabundance of acid in the primæ viæ, which in cold, tender, relaxed temperaments is frequently the case; they are, however, more admissible as to quantity in summer than winter. In boiling they give out their principal virtues to the water, which is usually thrown away, but I am certain in so doing the best and most nutritious parts of them are thrown away with it. To improve their relish, as well as correct their tendency to generate flatulence, we generally add a quantity of spices, as pepper, &c. which assists also their digestion; and for the same purpose in a raw state, they are eaten with vinegar, oil, pepper, salt, mustard, onions, garlic, and such like.

Potatoes are of the farinaceous kind, and contain an acrid juice, which, if not evaporated by boiling or roasting, would gripe and purge the bowels to a great degree. When deprived of their watery parts, of which they contain a very large quantity, they are a nutritive sort of food, though generally considered at best but heavy and stuffing.

Pickles, which are vegetables prepared by the help of vine-

gar or other acids, salts, spices, &c. to healthy people, from their acrimony, are unwholesome and heavy in the stomach; and as from provocatives of this sort a false appetite is frequently induced, they lead on the stomach till it be grossly over-charged, and afford no nourishment, whilst, by the same means, indigestion and flatulence are generated by their use.

Radishes, onions, leeks, garlic, shalots, chives, parsley, celeri, with the whole list of indigenous spices, as stimulants, are serviceable in the work of digestion. They, however, increase the circulation of the blood, and dispose the body to fever and inflammatory complaints. In conjunction with animal food, they should be used but sparingly; and in cases of gout, asthma, scurvy, or where there is any preternatural heat in the blood, should be altogether avoided; but as they agree best with persons of a cold phlegmatic habit, or persons disposed to nervous, dropsical, or paralytic affections, or where the digestion is sluggish or defective, they may be taken with advantage.

Cauliflower, broccoli, &c. though not very nutritious, are a very pleasant kind of food, and have their use: they are serviceable in correcting the putrescency of flesh meat, whilst at the same time their flatulence is prevented by being mixed with it; yet for persons subject to a windy rarefaction of the humours, they are not very proper.

Carrots, turnips, parsnips, artichokes, and asparagus, are very nutritious and wholesome; they are cooling, diuretic, and easy of digestion, and therefore, either as food or medicine, are extremely beneficial.

Garden fruits, or the various productions of trees and

shrubs, which are restrained to their particular seasons of the year, are generally of a soft pulpy texture, and more or less acidulated in proportion to their ripeness. Most of these possess a strongly resolvent power, and are beneficial when the body is relaxed by the heat of summer, when the blood is peculiarly disposed to an inflammatory diathesis, and by their laxative quality have a good effect in attenuating and evacuating thick bilious impurities, which in the summer is so predominant, both in the stomach and bowels. The liberal use of fruit at this season would infallibly prevent and cure many chronical and acute diseases; and for the consumptive, asthmatic, hectic, scorbutic, and gouty, should compose a very principal part of their living.

It must be noticed, however, that these observations will not apply equally to all constitutions without exceptions, for in some they are very apt to produce windy affections, arising from the great quantity of elastic air with which they abound; add to which, when eaten in a crude unripe state, and in very hot weather, they are apt to induce a state of acidity and fermentation in the stomach. If, during this state of fermentation, the elastic air finds a ready exit, either upwards or downwards, no ill consequences will follow; but if it be confined in the stomach, by a stricture of its opening, or in the intestines, considerable pain and inflammation are not unfrequently occasioned from it; and in some instances, have been known to terminate fatally, in a very sudden manner.

The suffocating vapour arising from the juices of fruits in a state of fermentation, as in the making of cider, perry, wines, &c. and the facility with which the vessels containing them, during this process, are burst, if too closely confined, will tend to throw some light on what has been already remarked on this subject. Fruits which have once passed the action of

fire, which soon extricates and dissipates this superabundance of air, and which is an unavoidable process they undergo in the stomach, become then quite inoffensive to the digestive organs.

In the use of fruits, much will depend on the sorts made choice of, as well as their maturity, though most of them are of a flatulent nature, nor will the mischief, where it happens, less depend on the quantity as well as quality of them. Providence has taken care to relieve the parched inhabitants of hot countries, by the most choice variety of acid and acescent fruits; and it is remarked, that those who watch the vineyards, and feed greatly on grapes, figs, and bread, are not only remarkably healthy, but also escape those dangerous epidemic disorders, which at that season commonly prevail; and for the same purposes, they are not less efficacious here than in other countries. *Van Sweiten* says, “the juice of ripe fruits require no preparation; extinguishes thirst, tempers heat, opens the belly and urinary passages, and furnishes the most excellent solace to a stomach oppressed with putrid bile; they correct all putrescency, resolve, by their detergent qualities, all biliary concretions; and while they do not relax the solids too much, refresh the spirits by their fragrance.” It should be added, that the skins of no fruit ought to be swallowed, being very injurious, and with difficulty pass through the alimentary canal.

On the contrary, pears, plums, walnuts, filberts, chestnuts, hazel-nuts, almonds, and others of the same class, are generally productive of bad effects, from their hard and indigestible quality. Nuts in a more especial manner, if not restrained within the bounds of moderation, are frequently the prolific origin of many ungovernable diseases; not only from the difficulty with which they are acted on by the stomach, but

having a bitter, astringent, stuffing, dry quality, containing an abundance of oil, which readily turns acrid and rancid on the stomach, and renders them very unwholesome. When they are eaten, care should be taken that it be while fresh, when they will readily part with their outer skin, which will sometimes affect the stomach and bowels in an alarming degree.

Along with nuts of all kinds, salt should not be omitted; it assists in converting them into a bland saponaceous mass, which is more easily assimilated with the fluids of the body; and this is also promoted by being thoroughly chewed before they pass into the stomach. On the whole, as they are not capable of affording nourishment, and as there is a risk of eating them with impunity, they are an article which at least had better be used but sparingly, if not passed by altogether. Being eaten to excess, they will sometimes form a hard indigestible mass, which the most powerful medicines cannot expel from the stomach, and produce of consequence the most serious calamity. In general, they occasion shortness of breath, vomiting, colic, cholera morbus, or sometimes very obstinate constipations of the bowels; and it has been generally remarked, that in those years in which the different kinds of nuts have been peculiarly plentiful, that a sickly autumn has followed, and vast numbers swept away, entirely from this circumstance.

Cucumbers, melons, and others of the cold kinds of fruit, are commonly of a cooling, wholesome nature; and from their possessing attenuating and cooling properties, have been recommended with reputed success in consumptive and scorbutic cases. In some constitutions, from their coldness and sometimes difficult digestion, they are apt very much to disagree. This coldness, however, as well as their tendency to fermentation, may in some measure be corrected, by com-

bining with them plenty of sugar, spices, and aromatics. When pickled, they are considered a good antiseptic, if vegetables thus prepared agree with the stomach.

Among the vegetable tribe may be also reckoned the various sorts of fungi, as mushrooms, champignons, &c.; most of these are crude and indigestible, affording but a very scanty portion of nutriment. Some of these fungi are known to possess a very narcotic and acrimonious poison, and a very short time after being taken into the stomach, produce the most deleterious effects. From the great similarity between the whole genus of fungi, it is often very difficult to distinguish those which are harmless from those which possess this poisonous quality; and as we not unfrequently hear of whole families falling a sacrifice to their being eaten, I think it a reason sufficiently cogent for abandoning them *in toto*. Even when they do not manifest any injurious effects of this sort, they are very inimical to the digestive organs. If, however, some persons feel a wish to gratify their palates at the hazard of their lives, or, to say the least, at the probable expence of their health, the best antidote as a preventative of dangerous accidents from them, is said to be that of using a copious quantity of vinegar with them.

Mushrooms, however, in defiance of their dangerous tendency, have long been in considerable estimation among the admirers of high-seasoned dishes: this was the case formerly with the ancient Romans; and among the French, as well as the Italians, they are now much in request from their exquisite flavour. Pliny exclaims against, and strongly condemns this luxury in his countrymen, who would not scruple to gratify their palates at the probable expence of their lives. The ancient writers on the *materia medica* and *alimentaria*, were almost unanimous in their opinion of the unwholesome, nay, deleteri-

ous qualities of this article; and those of more modern date, as Lemery, Allen, Geoffray, Boerhaave, Linnæus, Aitken, Willich, with many others, seem universally to concur in the same opinion.

It is very devoutly to be desired, that people could generally be prevailed on, for such forcible reasons, to expunge them entirely from the article of food; but if the palate must be indulged with these insidious gratifications, or, as Seneca expresses it, this voluptuous poison, it appears to me of considerable importance, that some information should be given to those who collect them, lest, by selecting those of known pernicious quality, they expose themselves to the dangers already pointed out.

The eatable mushrooms appear, in the beginning, of a roundish form something like a button of a pyramidal form; the upper part with the stalk are very thin, the under part of a livid flesh colour, but, when broken or divided, appear very white. If suffered to remain a proper length of time they will grow to an astonishing size, and expand themselves almost to a flatness, whilst the colour of the inferior part, instead of a livid flesh colour, is converted to that of dark brown, approximating to a black; of these are made what is called catsup, by far too frequent and general a kind of sauce among cooks.

It is, in short, by avoiding extremes in these particulars that the human body (the wonderful economy of which no one can contemplate without wonder and awe) can be preserved in a due equilibrium of health, and capacitated for what are denominated the enjoyments of life. "*In medio tutissimus ibis*" is an old adage, which in no case, perhaps, applies more forcibly than in this. Whilst we enjoy the blessings of health, the best means of preserving it, is to adopt, with fixed determina-

tion, this salutary maxim: as, on the one hand, the body would suffer and degenerate into decrepitude by too great abstinence from animal food (except indicated from certain diseases), so, on the other, a number of troublesome and unmanageable disorders are the certain lot of those who, in opposition to all reason or argument, indulge in every thing which gratifies their palates, without giving a moment's reflection on what will be the probable consequences.

On the whole, I believe that sort of diet which is plain and simple, is at all times, and under all circumstances, that which is most likely to be conducive to health; while the epicure, who is continually stimulating his appetite by provocatives, soon destroys the contractile powers of the stomach, by the repeated effects of repletion, till at last it becomes so totally depraved, that it loses its relish altogether, and in spite of sauces, spices, or all the combined arts of cookery, he gradually sinks into a state of atrophy or premature old age.

With respect to the number of meals proper in the course of a day, I would also observe, that must generally be measured by existing circumstances, such as the age, degree of strength, appetite, the quantity made use of at each time, as well as the quality of the food, as being more or less difficult of digestion. The young, the infirm, and those who eat but sparingly at one time, and that of food easily assimilated, should eat more frequently than those who are in the meridian of life, robust, with a keen appetite, who eat largely at a meal, and that of food which is substantial and takes longer to digest. It is requisite that every one should eat so often as that the daily loss he sustains by his muscular exertions should meet with due and necessary supplies to restore it; and such whose appetites are but small should avoid taking any great degree of exercise, and eat at any time when nature points out its necessity.

The effects of abstinence on the system, when too long continued, are very often productive of serious consequences, tending to weaken the faculties both of body and mind, the most common of which are faintness, uneasiness about the heart, a low weak pulse, debility of the muscles, impaired sensibility ; and, if carried still farther, will be succeeded by dangerous disorders, such as vertigo, epileptic convulsions, and others equally fatal. If the aliment be deficient by fasting, though this is a mere privation, and not disease, yet the actions of life remaining without being renovated, the solids are exhausted, and the more subtile fluids dissipated ; these, by the constant attrition of parts, are also rendered corrosive and acrimonious, till at length the animal machine totally destroys itself. After a long abstinence, the stomach not only nauseates, but is excited to vomiting from the most trivial cause, added to which, from inanition it becomes flaccid and makes no resistance ; while the intestines, being irritated to contraction, expel the bile and pancreatic juice into the lax and unresisting stomach, which excites considerable vomiting. Persons who have accidentally fasted but one day while in health, are usually deprived of their rest at night. Such also, who, at any former period of life, have been subject to the epilepsy, readily relapse again into that disease by fasting ; and lastly, it is commonly observed, that such animals as die of hunger, are before death more or less affected with madness.

If we be guilty of intemperance, by eating too much, though the danger is not so great as that occasioned by abstinence, yet the body never fails to suffer under the effects of repletion ; for when the stomach is over distended with an immoderate quantity of food, it is with difficulty that it can digest and expel its contents ; hence is induced a difficulty of breathing, the circulation is impeded, and flatulence, eructations, vomiting,

heart-burn, vertigo, and sometimes delirium are the consequences.

It is a circumstance worth attending to, that we do not fill the stomach with food till that which we made use of at the last meal be thoroughly digested; and our last meal, called supper, should be at such a distance from bed-time, that the work of digestion be nearly accomplished before we sleep. Sleeping immediately after eating, is only to be indulged in by persons of weak digestive powers, of tender constitution, or whose minds are much engaged in studious pursuits; that sleep, however, should be short, of a few minutes duration, otherwise we lose more by an increase of insensible perspiration than is conducive to digestion.

As to the most seasonable times of taking our meals:—we should breakfast soon after rising, dine about mid-day, and not protract the hour of supper till just before bed-time; for if we go to bed with a full stomach, our sleep is disturbed with troublesome dreams, the chyle becomes viscid and incapable of making good blood, whilst the night-mare, and other unpleasant symptoms are sure to succeed. When, on rising from table, we feel a heaviness, with a great inclination to sleep, it may be taken for granted we have eaten too much, for the criterion of proving a due proportion of our food, is when the body seems refreshed, light, and fit for exercise after eating.

I shall only farther observe on the subject of eating, that the proper mastication of our food, which may be deemed the first work of digestion, is a circumstance which lays claim to our particular attention, by which we mean the comminution of the solid parts of our food by trituration in the mouth, and at the same time incorporated with a due proportion of saliva to dilute it, without which, it cannot be converted into good

chyle. Of so much importance did this subject appear to the ancients, for the attainment of long life, that they laid it down as an invariable maxim, that he who did not chew his food well was an enemy to his own life, considering that the cohesive quality of the aliments could not be adapted to the weak attrition of the stomach, and consequently unfriendly to digestion, were they not first well divided by the teeth, and thereby mixed with the saliva and air, essential requisites for the formation of pure blood ; for by the included air, with the heat of the body, and a continued series of pressure, the food being well comminuted and incorporated with the fluids from the salivary glands, is rendered of a proper consistence for the action of the stomach, where it then undergoes with facility that process called digestion, which has hitherto eluded the investigation or even imitation, by the most elaborate chymical researches.

Here again we are furnished with additional cause of admiration at the astonishing contrivance as well as goodness of the Creator, whose tender mercy is over all his works. The aliment having passed the action of the stomach, for the purposes of separating its nutritious parts, is advantageously retained in its passage through the intestines, for a due space of time, by their retrograde peristaltic motions : numerous valves and convolutions, whereby what is adapted to the formation of chyle is taken up by the lacteals before it is propelled into the larger intestines, and ultimately expelled at their termination. Were it not for this peculiarity in the structure of the intestines, our food would be propelled too rapidly through the body, before a separation could take place in it, and though large quantities were continually applied to the stomach, still we should not derive that proportion of nourishment from it, to supply the waste which the body necessarily sustains.

When, however, meat is eaten without being properly masticated, either tough or abounding with fat, or with unfermented farinaceous substances, or when by any accident the saliva is vitiated, too scantily or not intimately mixed with the food, the fermentation becomes tumultuous, the stomach is distended with air, which being attended with extraordinary heat, induce that uneasy sensation called heart-burn; and as, from experiments which have been made, a certain quantity of saliva is found necessary for keeping the fermentation in due bounds; so in practice we find that whatever tends to promote a greater secretion of that fluid, assists in assimilating our aliment, and is the best remedy for this as well as other complaints arising from indigestion or other causes, from which the functions of the stomach become impaired.

Although persons who labour hard, with strong digestive organs, may fall into this error with impunity, though even for such it should be reprobated, yet for those of delicate constitutions, or of sedentary or studious habits, who do not exert much muscular motion to break down their food, particular attention should be paid that it be well chewed, for the reasons before hinted. Hard indigestible substances swallowed without being properly attenuated, will be frequently found to pass through the intestinal canal with very little alteration; and even the most ordinary and proper sorts of food, when this has been incautiously neglected, never fails of imposing a much greater degree of labour on the stomach, by which its energy is diminished, whilst indigestion, sickness, and many other distressing symptoms are generated from the same prolific source.

Drink.

Drinking, it appears, is less dispensable for the support of

animal life than eating, a proportion of which is absolutely requisite for the solution and digestion of our food. To regulate this with advantage, we cannot follow a more faithful guide than that which nature so wisely dictates, which is of drinking when we are really thirsty, and not otherwise. That perhaps which is most congenial with our well being (with some few exceptions) is pure water; fermented liquors of all kinds are undoubtedly inimical to health, and are rather due to the industry of mankind than to the dictates of nature.

Water, it is to be observed, forms the basis of all the articles we make use of, by way of drink; the purer or less combined it is with vegetable, mineral, or earthy particles, the better it is. Its purity is best discovered by its transparency, fluidity, lightness, and insipidity, on which its qualities, as to its wholesomeness, very much depend. Spring water is commonly lighter and purer than any other, from the filtration and solution it undergoes by the vapours of subterraneous heat. Well-water is more or less pure, according to the different strata of earth over which it passes; and, therefore, wells sunk in a gravelly sandy soil, afford the most wholesome water, on account of its being so purged of its impurities in passing through them. River water, if in constant motion and running over a sandy stony bed, is very wholesome; but in its passage through large towns or villages, it commonly becomes a reservoir of filth, from the quantity of putrid animal and vegetable substances which are thrown into it, and is thereby rendered very unwholesome. Stagnant water, or that which is obtained from small lakes and ponds, is the worst of all others, because, from the heat of the sun and other causes, it soon becomes putrid, and consequently very unfit for drink. Rain-water, as containing a great quantity of saline and oily particles, generally abounds with an immense number of insects and animalculæ, which, with the vegetable and mineral sub-

stances with which it is replete, cause it also to be extremely unwholesome.

Snow water has been considered extremely insalubrious on many accounts, and therefore improper for drinking and culinary purposes. It is also supposed to be the cause of producing that disease called bronchocele, a disorder very common in the neighbourhood of the Alps, and ascribable by most authors to the use of snow water. In Derbyshire, and many other parts of England, there are great numbers of the inhabitants who are affected with the same complaint, produced no doubt from the qualities imparted to the water, which, in passing through different strata of earthy and mineral substances, becomes hard and calcareous. Water, therefore, appears to partake more fully of these qualities in the low lands; whilst on the mountains it is procured in the greatest state of purity.

As water is so necessary to animal life that we cannot possibly subsist without it, and as all the fluid parts of the body are formed from this element, it will be from hence evident of how great importance it is that it should be congenial therewith, by the most rational means of rendering it pure and wholesome, as well as best adapted to the purposes of nourishment and health. This may be effected by various means, as filtering, boiling, and distillation; the latter of which, as it tends in an especial manner to deprive it of its feculent gross particles, has lately been much in general use, and is certainly the most proper and wholesome change that can be made in it for drinking.

There are also other ways of purifying water, both easy and simple in the operation: thus, about half an ounce of alum being added to twelve gallons of water will, in the course

of an hour, render it pure and transparent, without imparting to it any astringent or unpleasant flavour. By the addition of a small quantity of pure calx, or common lime (unslacked), water will be preserved from corrupting during long voyages; and for the same purposes at sea, a small quantity of potash, or salt of tartar, or common soda, with a little vitriolic acid, will so far impregnate it with a portion of fixed air, that, having passed through this process, it will be kept sufficiently pure for use for the space of a twelvemonth. Charcoal has also been found an admirable preventative of putrefaction, and points out the propriety as well as the necessity of having the staves of the casks, on ship-board, well burnt in the inside before they are filled. The various kinds of acids have, also, a general tendency to resist putrefaction, whether vegetable or mineral. Vinegar is well adapted for this salutary purpose; and its effects in preventing scurvy, and other similar diseases, are well known.

Water, then, is the most wholesome menstruum for diluting our food, and promoting digestion: it washes away any putrid colluvies in the stomach, cools and dilutes the humours, and renders them more mild and less acrimonious. In all defluxions, head-aches, hysteric complaints, epilepsy, tremblings, dimness of sight, bilious affections, hemorrhages, fluxes of the humours by stool, urine, or the womb; asthmas, consumptions, &c. water is the most proper beverage; and in all cases of fever, applied externally, as well as drank freely, it stands unrivalled, as exemplified by the accurate and judicious practical observations of Dr. Curry, who has recently published a very scientific and philosophical treatise on the subject.

Water was the original and principal beverage, designed by nature, for the use of man; and happy would it have been for the world had other mixtures and fermented liquors never

been invented. A little syrup of capillaire, orgeot, or the juice of some fruit, with a little lemon or lime juice, should always be mixed with our water at meals, to make it somewhat glutinous, that it may mix properly with our food, and not pass off too soon.

Water should always be drank cold after purification or otherwise; in this state the stomach is invigorated by it, and it is only prejudicial when taken too copiously, or when the body is heated by extraordinary exertion. Warm water always relaxes the stomach, and diminishes its elasticity, and remaining longer in it than when it is cold, has a very oppressive and debilitating influence on it. Cold water, on the contrary, depurates and frees the fluids from their acrimony, as well as stimulates the stomach to contract and renew its tone; and hence it was esteemed, both among the Greeks and Romans, as a universal medicine, as well as a very necessary part of our aliment.

With respect to the quantity of our drink, it must be noticed, that it should for the most part exceed the proportion of our food, as the fluids are continually suffering a much greater degree of exhaustion than the solids of the body; and the more we eat in quantity, and the drier our food is, the more we stand in need of drink. The rule, however, which seems to apply generally to this circumstance is, that about a double proportion of liquid should be taken with food that is dry, though this cannot be accurately measured, and, indeed, in some instances, admits of exceptions. Nature, as before observed, will also best direct us in this particular; and if we do not transgress the limits she prescribes, we shall seldom incur either inconvenience or danger.

Too great a proportion of fluids oppresses and distends the

stomach, and, by diluting the solid food too much, causes its too rapid passage through the alimentary canal : add to which, it impoverishes the blood, renders it too thin, as well as having a tendency to weaken the digestive organs. On the other hand, too little drink is attended with equal disadvantage; the food, from this cause, remains too long undigested, and its nutritious particles are not readily conducted to the lacteals; hence the blood becomes viscid, digestion impaired, whilst the secretions, as well as excretions, cannot be duly performed.

Wine, even in its genuine state, is unquestionably an improper kind of drink for the inhabitants of this country, not to notice the very pernicious quality of that which, being a compound of deleterious substances, is usually sold in the place of wine. When it can be procured free from lead, and other noxious ingredients which are commonly mixed with it, its constituent parts seem to be composed of water, alcohol, or spirit, and sugar; and in proportion as each of these more or less preponderates, in the same ratio will the strength or weakness of the wine be.

From the quantity of acid which is contained in all kinds of wines, they are very powerful antiseptics, which, added to their cordial quality, render them very beneficial in some cases; and are exhibited with great success in putrid fevers, sore throats, dysenteries, &c. or any other complaint where the use of cordials is indicated. If the stomach be cold or relaxed, the constitution languid or weak, and the blood poor and watery, a glass or two of wine will then be serviceable; but, as an article of luxury, it is not only unnecessary, but in many respects whilst in health very prejudicial. For the aged, the infirm, and valetudinary, or where a stimulus is wanted to warm and invigorate the system, wine is a very

proper cordial; but for persons inclined to feverish affections, water is certainly preferable, and better calculated to attenuate this viscosity of the blood, and dilute as well as expel its acrimonious and useless parts.

Wine was never intended for common use; and a good appetite is never assisted by it, in adding to the spirits. In warm countries, from the debilitating effects of the intense heat, it is not only requisite to counteract the excessive waste by perspiration, but health cannot well be properly maintained without it; therefore, Providence has provided for such wants, by affording plenty of grapes, which are the production of warm climates only. The occasional use of a glass of wine is more beneficial in summer than in winter, and some delicate people at that season would almost find life insupportable without it; nor do I mean here altogether to condemn the *moderate* use of it at any time, if a person has dined on plain meat, though I by no means think it necessary. In all cases of asthma, gout, scurvy, or increased heat of the blood, it should never be resorted to; but in low, nervous, paralytic, or drop-sical cases, a few glasses of wine are very beneficial, and a glass or two between meals peculiarly so.

Wine is taken to promote digestion, and assists the operation of the stomach; but in this view it seldom fails of doing harm, as it hardens and corrupts the milky chyle; it indeed warms and stimulates the stomach to greater exertion than is natural, and promotes a more speedy discharge of its contents, and, from its immediate action, imparts a transient sensation of warmth and comfort; but expelling the contents of the stomach too soon before they are softened and properly prepared, and sending the aliment into the intestines in a crude hard state, it is thus propelled into the circulating mass of fluids, and there produces diseases of various kinds.

The effect produced on the body by drinking wine, like most other stimuli, is of no longer duration than while it is retained in the stomach, and being a preternaturally strengthening liquid, as soon as its exhilarating effects have subsided, it leaves the frame disordered, weak and relaxed : we know that almost all wine drinkers, who persevere in the practice to any excess, die of relaxation and debility, whilst to the young, like manure to promote vegetation, it hastens the growth, but destroys the plant.

The lovers of the bottle frequently flatter themselves that a studious care in the selection of their wines will exempt them from all the evil effects attributed to an inordinate use of them. Thus, a man whose cellars are filled with pipes of wine, which, in their succession, ascend to the honours of his table, hugs himself on his good fortune in the conviction of what he possesses being of superior quality when he compares notes with others, whom convenience or necessity obliges to drink the home-brewed and unmellowed wines of taverns or coffee-houses ; but so far as health is concerned, he solaces himself upon a very deceptive basis, for the injurious effects of these, as well as of most other fermented liquors, will be equivalent to the portion of spirits they contain, as well as the frequency with which they are applied. Wine would be an excellent cordial were its good qualities not destroyed by too frequent use ; for it may be taken as a very general maxim, that there is neither medicine nor cordial, however salutary in itself, but what, on a too frequent repetition, entirely loses all its useful and beneficial effects.

I cannot omit once again to make a few farther remarks on the effects produced by bad wine, for in considering the very pernicious ingredients made use of by avaricious dealers in its adulteration, it must appear evident to every one, what

dreadful effects they frequently produce on such as happen to drink them: though some of these substances may be perfectly harmless, it is, however, a well known fact, that many of these adulterated wines are strongly impregnated with various preparations of lead,* to give them a sweetish taste, and

* Lead, it should be remarked, is a metal easily corroded, especially by the warm vapours of acids, as vinegar, cider, lemon juice, austere wines, &c. which as it is nothing more nor less than sugar of lead, may be a slow, but no less insidious poison. The glazing of our common brown pottery ware is either lead or lead ore: these vessels, being extremely porous, are easily operated on by both acid and alkaline substances, and are therefore very unfit for retaining any thing of a saline quality. For this reason they are improper for preserving sour fruits, or pickles, for which purposes they are commonly in use. The glazing of such vessels is corroded by the vinegar, which may be easily proved by evaporating it, when a considerable quantity of salt will be found remaining at the bottom. A certain method of judging whether the vinegar or other acids have dissolved part of the glazing, is by their becoming vapid or losing their sharpness, and acquiring a sweetish taste by standing in them some time, in which case, as the contents are pernicious and improper for eating, they had better be thrown away.

The most proper vessels for these purposes, or for inspissating the juice of lemons, oranges, or any acid sorts of fruits, are porcelain or china ware, the composition of them being of so close a texture that they are impervious to the effects of any kind of saline solutions. The glazing, which is also made of the substance of the china, is so firm and close, that no salt or saline substance can have the least effect upon it. This remark, however, will be only applicable to the porcelain made in China, for there is no doubt but that most of this species of ware manufactured in England are glazed with fine vitrified preparations of lead, &c. Next to china, we may recommend the stone ware, commonly called Staffordshire, the substance of which is a composition of black flints, which bakes white. The exterior of these is glazed by throwing into the furnace, when well heated, common or sea salt decrepitated, the vapour or acid of which ascending up among the vessels, vitrifies their outsides, and gives them their glazing. Salts, acids or alkalines, or liquors impregnated with any of them, seem by

thousands, though unsuspected, have fallen victims to such nefarious practices. Such kinds of wine, if they produce not immediate baneful effects, operate like a slow poison ; they first occasion head-ache, contraction of the parts of deglutition, cough, shortness of breath, pain and sickness at the stomach, afterwards colic, particularly the colica pictonum or dry belly-ache, with excessive costiveness, and at last supervene paralytic affections, convulsions, and death.

The shorter the time in which any considerable quantity of intoxicating liquors is drunk, the more injurious they are to the organ to which they are immediately applied ; and people in health would not suffer so much from intemperance, were that allowed to be dissipated which had been taken after dinner, before a fresh dose was added in the evening. That continued length of soaking after dinner, the constant practice of the convivial *bon vivant*, seems of all others the most improper time, where the object of health is not entirely discarded.

It would therefore appear more rational, to reserve such extraordinary stimulants for those seasons when nature begins to flag ; but such persons as are addicted to frequent ebriety are obliged to keep up the stimulus by repeated supplies, to counteract the horrid train of sensations which harass the drunkard, when no longer under its intoxicating influence ; for as the brain is much weakened and the nerves much debilitated,

no means to affect or injure them, whether applied hot or cold ; on this account, therefore, they are most eligible for common purposes ; but they require some degree of caution in their management, as they are more liable to crack with any sudden heat than either china or the other kinds of ware.—See my new Practical Physician, where will be found a test for discovering this fraud.

he is obliged to keep up a perpetual flow of false spirits, by flying to the bottle, which ultimately terminates in a complete destruction of the corporeal and mental energies ; hence are induced dropsies, diseases of the liver, atrophy, and many other fatal disorders.

Wine, however, when used in moderation, is considered the most agreeable and least injurious to the stomach of any kind of fermented liquors, on account of its clearness and the tartar contained in it, which is generally found to possess qualities grateful to the stomach. For reasons such as these, it is, that French wines, especially those of Burgundy or Champagne, are preferable to those of Portugal or Spain, which are only drunk with advantage when sparingly used. Persons who have been in the habit of drinking wine freely, should lay it aside with great caution : when this is attempted, it should be done gradually ; nature cannot sustain the shock of being deprived of it all at once, without manifest injury, and the worst of consequences may be expected from running precipitately from one extreme to the other. In commencing this desirable object, we should at first mix a little water with our wine, or exchange port for some light French wine ; the quantity may next be abridged, till we shall almost imperceptibly be enabled to leave it off altogether.

The intoxicating and pernicious effects of ardent spirits are too well known to need here a very minute description. An inordinate use of them, or, as it is more commonly denominated, dram drinking, is, of all others, the most baneful practice. These destroy the memory, impair the judgment, dry up the fluids, scorch and shrivel the solids, inflame the blood, contract, corrode, and destroy the coats of the stomach, and induce diseases of the most miserable kinds, as gout, dropsy, stone, gravel, fevers, rheumatism, pleurisy, apoplexy, palsy, &c.

From their well known property of resisting putrefaction in inanimate bodies, which are preserved in them for any length of time, it may be easily supposed what a powerful effect they must have on the stomach, when taken to excess ; digestion is always impaired, and the appetite destroyed by them ; they convert strong food into a crude indigestible mass, and if too long persevered in, produce many distressing and incurable disorders, as nausea, vomiting, tumors of the nerves, lowness of spirits, bilious affections, purging, wind, frequent eructations, &c.

There is no state perhaps in which the ravages produced by ardent spirits are more clearly demonstrated than in that of infancy or childhood. Children who, by an ill judged kindness, are the frequent partakers of drams with those who have the care of them, soon begin to manifest such imprudence in a variety of forms, particularly by blunting the calls of hunger, and stinting their growth ; indeed if such an infamous practice be persevered in, even but a very short period of time, every one open to the conviction of notorious facts, must shudder at the consequences.

French brandy contains about nine parts of water to seven of spirits, and is of a much superior flavour to malt spirit. The latter possesses an acidulous and somewhat pungent taste, and notwithstanding its insipid flatness of taste, is more inflammable and heating to the body than any other : consequently, gin drinking to excess must produce deleterious effects on any constitution.

Rum, as possessing a considerable portion of attenuated oil, is considered less injurious to the coats of the stomach than brandy, and a rational moderate use of it would probably be rather salutary than otherwise ; but few are sufficiently on

their guard, so to conduct themselves ; and thus we may suppose, that it is rather from the abuse, than from these things themselves, that so many mischievous effects follow such indiscretion.

“ The drunkard shall not live out half his days,” nay, he shall not be an heir of immortality, is the language of holy writ. What a dreadful situation are such persons reduced to, who cannot even endure their existence any longer than as they are in a constant state of intoxication ! Running into the destructive vice of dram-drinking, is giving up every thing at once ; for though slower, yet arsenic itself will not be more certain in its effects. People who have the least regard for their health or reputation, should tremble at the first cravings of such poisonous liquors. A little depression of spirits requires drops, which readily pass down under the appellation of medicine ; drops beget drams, and drams beget more, so that the indulgence in them becomes unlimited, till the vice is so uncontrollable that it can by no common endeavours be kept in due subjection. This violent stimulus rouses the nerves and fibres to a temporary elevation, but, from repetition, they become more callous and insensible, for debility disposes to irritability and rigid inflation. Being thus frequently repeated, their effects become more trifling and transient, therefore not only the quantity but the quality must be augmented, to produce the desired effect, till rectified spirits, impregnated with hot fiery essential oils, become absolutely at last too weak a stimulus : at length these deluded victims of intoxication can cherish no probable hope of alleviation of their misery, but with a termination of existence.

Although an excess in strong liquors is so prejudicial when their use is in this way perverted, yet, when moderately drunk, they are frequently very beneficial in many cases, nay, abso-

lutely necessary, under proper regulations, and may be ranked among the blessings bestowed by Heaven on man. When the spirits are almost exhausted by violent exercise or labour; when the body is languid from the effects of disease or perturbation, how refreshing, under such circumstances, is a glass of generous liquor! how is the sense of pain blunted, and the drooping spirits revived? In all disorders when the circulation is weak, the pulse low, the blood abounding with serum, when perspiration is suppressed, and the passions of the mind violently agitated, then their effects are, under proper restrictions, friendly to the body. In fevers of the low, nervous, typhus or putrid kinds, of such vast importance are this species of cordials, that medicines would be administered with but faint hopes of success, were their operation not assisted by some liquors of this class.

Beer, ale, and porter, composed of pure malt and hops, and well fermented, are a nutritious and wholesome beverage, but are rendered more or less so in proportion to the mucilage and saccharine principle of the grain contained in them. Malt liquor, therefore, fresh, light, and well hopped, not too strong, and of a proper age, is a very good diluter. Strong beer is very nutritious, and on this account very serviceable in debilitated or emaciated habits. Porter, in summer, in small quantities, strengthens and refreshes; to hard-working people it is a wholesome liquor; but to others it is heavy and unwholesome, except it be taken in great moderation.

Every kind of beer has a strong tendency to ferment, and if this process be not previously performed, that effect will certainly take place in the stomach, where, on account of the fixed air being disengaged from it, the stomach and bowels are distended with flatulence, which is frequently succeeded by colic pains and diarrhœa. The sort of beer which is best

calculated to allay thirst, though by no means so nutritious, is that which contains a larger proportion of hops than malt. Beer made this way is light and thin, and is a very common kind of drink on some parts of the Continent.*

An infusion of malt, in whatever way prepared, is a very excellent species of drink for such as take long voyages by sea; the dreadful ravages of the scurvy, a disease so well known, and so prevailing among too many of our brave tars, is, by such beverage, better counteracted than by almost any other means of prevention. Sweet-wort, or a simple infusion of malt in water, was found, by Captain Cook, in one of the longest voyages he ever made, to be a most efficacious remedy, both as a means of preventing as well as of curing that miserable disorder; and the last voyage he made, which was the most remarkable for the health of his crew, he accounted for it only from the liberal use of this liquor. In more simple cases of this disease, where the gums are loose and spongy, and inclined to bleed on being touched, as well as in other slight impurities of the blood, considerable advantage will be experienced by the use of the same: the mouth should be frequently well washed with the infusion, and a pint or more of it taken daily.

For beer or ale intended to be long kept, or bottled, it is very necessary that it be well hopped, that it may be safely

* Boerhaave remarks, that beer, imperfectly fermented, is extremely noxious, particularly if freely drank; that it excites dysury, convulsive colic, inflammation of the stomach and intestines, and sometimes death. In the 'Memoirs of the French Academy,' there is a case related of a gentleman, who died after drinking a quantity of this liquor. On opening his body after his decease, the intestines were found uncommonly distended with flatus, occasioned by the fermentation which took place after drinking the beer.

kept till all its viscid and impure parts are deposited at the bottom of the vessel. A sure mark of its goodness is, when it possesses a dry flavour, not inclining to sourness, transparent, and sparkling; but when deficient in hops, the liquor is either new, ropy, or half fermented, or otherwise flat and stale, both of which are very prejudicial to health.

Beer in general being nourishing, has a tendency to fatten such as feed much on it, who are of a dry and rigid temperament, and whose bile is secreted in a proper manner; hence it is observed, that, in those countries where this fluid forms a considerable portion of the aliment, the inhabitants are dull and phlegmatic, which accounts for the great contrast between an English and a Frenchman: the latter from the use of a small portion of animal food, and drinking light wines, is generally alert and full of vivacity; whilst John Bull, from the effects of his roast beef and strong beer, is coleric and indisposed for gayety. The Burton, Dorchester, Scotch, and other ales, as being composed of a large proportion of malt, contain a very considerable quantity of spirit, which is increased by age, and are, on that account, of a heating and intoxicating nature.

Malt liquor, upon the whole, though a nutritious beverage, is by no means proper for persons of a bilious or melancholic temperament. For the weak and laborious it is calculated to impart strength and vigour, as well as for those of a lean, spare habit. It is of great service in affording due supplies of milk; and, therefore, is very useful for such women as give suck, or are debilitated from continuing it too long. With persons who are at all subject to flatulence, coughs, or inflammatory affections of the chest, it will be found uniformly to disagree.

Tea and coffee.—A vast deal of pains have been taken by many authors, particularly such as have treated on dietetic regimen, to prove that foreign tea is uncommonly pernicious, even much more so than wine, beer, or ardent spirits; and that the habitual drinking of tea is more destructive to the human frame than even the frequent practice of drunkenness. It, however, unfortunately happens for these alarmists, that there must be a positive negative to such assertions, by a simple appeal to real *matter of fact*. Had the article of tea been a new production about to be introduced to general use, such insinuations might go down tolerably well, and the dreadful effects attributed to it might operate as scarecrows, to warn us of our danger; but as we know from experience, that nothing of the kind does nor ever did exist, I consider it very little short of a libel on common understanding in any one who would be bold enough to advance such hypothetical dogmas, altogether unsubstantiated by reason or truth.

Whoever has made but the smallest degree of observation on this subject, must be convinced of the futility of such vague theory, particularly when he recollects that there never was a period, since the introduction of the plant in this country, in which it was so much in general use, among all classes of people, as the present; and that we do not find any of the frightful consequences resulting from it, with which these gentlemen are so desirous to alarm us.

This herb, which has attracted the notice and employed the pens of so many writers, is, I believe, to the present time, perfectly undefined: whether it is of an astringent or narcotic quality, or whether it possesses any qualities at all. Although I have never taken any pains to analyse its properties, yet I believe I am warranted in saying with confidence, that at least it is perfectly harmless, for, after drinking it twice a day for

the last forty years of my life, had it been so very deleterious as is represented, I must, long before this period, have made some discovery of the kind. In advancing that it is harmless only, may be considered by some as applying merely to its negative qualities; but, experience bears me out in saying something of its positive virtues, which I account to be a grateful, aromatic, and refreshing beverage possessing some antispasmodic as well as tonic qualities.*

The relaxing and debilitating impression it is said to make on the stomach and digestive organs is equally chimerical with some other theories on the subject. So far from this being the case, I will not scruple to say, that it possesses qualities the very reverse of these, and that it is not only a pleasant and refreshing liquor, but that it incontrovertibly contains, from its apparent astringency, a considerable share of

* So far from tea being productive of nervous affections or complaints in the stomach, I never find any thing like the refreshment from wine, or any other stimulant, as I do from tea; and in the unavoidable fatigue attending the practice of midwifery, I never feel any thing so reviving or so much of a cordial, when professionally engaged through the whole night, as from this liquid. This, therefore, creates in my mind much wonder that such theories should be broached in the very face of truth and common sense. The late *Dr. Beddoes*, in his '*Hygeia, or Essays on Health*,' has even attempted to prove, by experiments on this herb, that it is an *absolute poison*; as he was a man of sound judgment, matured by study and observation, I cannot but feel surprised that he should fall into so absurd an opinion; but he was by no means singular: *Dr. Buchan* too, poor man, who was very soon alarmed at shadows, concludes his *learned observations* on this subject with saying, "Did women know the train of diseases induced by debility, they would shun tea as *the most deadly poison*;" whilst another physician, of equal celebrity, has added, that "tea will induce a total change in the constitution; in the people of this country, it has made a complete conquest of the one sex, and is making hasty strides towards vanquishing the other." *So much for theory!*

tonic power; and that the stomach is invigorated by its use, when it is not drunk weak: it certainly promotes perspiration, takes off the natural morning paroxysm of fever, and rouses the mind to a state of action, when torpid from violent heat or fatigue of body.

Notwithstanding, from my own experience, as well as that of thousands beside, I am well convinced that none of these deplorable effects ever existed by the use of tea in any other place than in the sensorium of these very sapient illuminati; yet, I am free to allow, even in spite of custom, that many of our indigenous productions are equally salutary with those of distant climes; nor am I in the least surprised that the Chinese should smile at our credulity in supposing we have not productions of our own equally good with theirs. We certainly have in this country an immense variety of agreeable and valuable aromatic plants, some of them possessing, no doubt, every virtue which is to be attributed to theirs; and it is only by habit and prejudice that we do not adopt their general use, particularly as they can be obtained at a comparatively small expence.

To propagate such a sentiment may not be altogether grateful to the monopolized commerce of the India merchants; but the real truth is of more consequence than the interest of a few individuals, however they may be affected by it. Of this class are the strong, spicy, and balsamic plants, such as rosemary, sage, balm, peppermint, winter savory, marjoram, pennyroyal, and many others; these, with some of the strong aromatic flowers, and mild mucilaginous blossoms of trees and shrubs, are equal in flavour and effect to the most costly exotics of the Chinese.

It might, perhaps, be advantageous to the inhabitants of this

island, could they be persuaded to diminish the quantity of their warm liquors, which they so copiously cram their stomachs with; but to advance an assertion, that the ill effects attending this incautious measure are attributable only to the peculiar qualities of the tea, is an error which ought to be generally reprobated, nay, I should really be inclined to smile in that person's face who would gravely advance such a solecism, which truth and long experience so flatly contradict.

If ill consequences have ever followed the use of foreign tea, I am very well assured that they have arisen from the vehicle in which it has been taken, or, in other words, *from the sole effect of the water.** If the lower orders of people ever feel any inconvenience from it, this arises from the very same cause: they generally make up for the quality of their tea by the quantity of water; and if their stomachs ever feel disordered, it happens no more to tea-drinkers than it would to those who indulge in the same immoderate quantity of any warm diluting fluid.

Coffee is an infusion or decoction of that well known berry roasted and ground into a powder. That brought from the Levant is of a more agreeable flavour than that which is imported from the West Indies; and what is called Mocoa or

* We learn from the immortal Hippocrates, that too great a use of warm fluids softens the flesh, weakens the nerves, renders men stupid, and occasions hemorrhages, syncope, and death. Tea, therefore, in this respect, from the manner in which we take it, may, in a degree, have injurious effects; but, as far as relates to the quality of the herb itself, all the melancholy accounts which authors have exhibited on the subject, have originated in visionary alarm, to which fact and real observation give a decided contradiction.

Turkey coffee is in much greater estimation than plantation coffee, though perhaps all the difference is, that one is of more agreeable flavour than the other. They both contain a quantity of empyreumatic oil, which, being either more or less dissipated in the process of roasting, adds or diminishes its tendency to a bitterish taste.

Effects of an equally alarming nature with tea have been attributed to this salutary beverage, and with equal plausibility and reason. It has been said to produce in some persons a long train of fashionable nervous diseases; while in others, disagreeable eruptions in the face, bleeding at the nose, spitting of blood, piles, hectic coughs, consumption, and death have followed its use, when long persevered in. How far coffee merits such a character, can perhaps be better determined by those who are in the frequent habit of drinking it. I can only say, that having continually used it in my family, I never discovered, as yet, any such effects; I therefore feel very little doubt, but that they are as groundless and ridiculous as those which have been imputed to the article of foreign tea; and as it is now much more universally drank than ever, from government having taken off the very large duty imposed on it, it is rather a matter of astonishment that we do not often hear of its producing such bad effects on the body as these gentlemen would have us believe.

As an article of food, coffee is a very pleasant and refreshing beverage, and is well known materially to assist the concoction of other kinds of food. Mixed with a due proportion of milk and sugar, it sits easy on the stomach, and, properly prepared, forms a nutritious light breakfast. It is necessary however that it be drank tolerably strong, perhaps in the proportion of an ounce of the powder to a pint of water, for if ever any ill consequences follow its use, like tea-drinking, they are caused by

the quantity of hot water thrown into the stomach. The best mode of making it is by infusing it in a biggin, as by boiling its more volatile and aromatic parts are very considerably exhaled, and consequently it is deprived of much of its fine flavour; but if boiling be preferred, it should not be long continued, but just allowed to boil up and then poured off fine from the dregs.

With respect to the medical virtues of coffee, it possesses a powerful antispasmodic as well as sedative quality,* and is therefore taken with singular advantage by persons of an hypochondriacal or hysterical disposition. In distressing paroxysms of asthma, Sir J. Pringle recommends it as an admirable remedy to shorten the fit and relieve the oppressive respiration; but for this purpose he has directed that it be made *uncommonly strong*; and Sir J. Floyer, who laboured under the painful effects of this complaint for the last thirty years of his life, has remarked in his writings, that he found more relief from a cup of strong coffee when the paroxysms were very severe, than any other remedy besides, and positively affirms, that it is the best abator of the periodical asthma than any thing he was ever acquainted with. Dr. Percival, and many other physicians of equal celebrity, were of the same opinion. As,

* To prove the sedative quality of coffee, I shall here transcribe the following observations made by Dr. Percival, on himself. "I awoke, (says he) at five o'clock in the morning, with the head-ache: my pulse was hard and full, and beat 92 strokes in a minute. I drank four dishes of strong coffee; in half an hour the pain in my head was relieved; yet my pulse continued to vibrate the same number of times, but was softer and less full: in an hour it sunk to 70; in an hour and a half it rose again to 76, and in two hours to 80, which is the standard of its frequency in health. I was in a recumbent posture during the whole time of this experiment, which I have since repeated several times under different circumstances, with no material variation in the result."

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however, in these cases much will depend on its *strength*, they direct that an ounce of Mocoa coffee, recently roasted and ground, should be infused in a sufficient quantity of boiling water to make only one teacup full.

In tremors, or any of the distressing sensations commonly denominated nervous, or in head-aches or nausea from a debauch, or drinking too much wine or spirits, coffee is known to afford very considerable and speedy relief, and if taken after a hearty meal, or when the stomach is labouring under the effects of repletion, the digestion is much promoted by it, and its exhilarating effects on the animal spirits are too well attested by thousands to admit of a doubt. It is also very serviceable in languor from over exercise, and in all humid temperaments of body. When used in this point of view, of assisting digestion, it is taken with most advantage without milk, which tends to dilute its strength; but for a breakfast a mixture of milk and sugar is most proper; it accommodates it more agreeably to the palate, and helps to sheath or neutralize the empyreumatic oil contained in it, which, if too predominant, is heating, and will occasion flushing of the face and other uneasy sensations.

All the different substances which have been attempted to form a substitute for coffee, such as parched beans, peas, wheat, rye, &c. &c. fall infinitely short of it, both in flavour and otherwise, as bearing a very little analogy to it, any farther than what they acquire by the burnt taste and empyreumatic oil, of which they bear but a very small proportion to coffee. They are all of them, for the most part, harmless in their nature, and the principal objection to them seems only to arise from their defect in flavour. Some persons have, however, used them in conjunction with coffee, in about the proportion of one half; but as they are all so inferior, and the

article of coffee is now so cheap, such experiments are hardly worth trying, even upon the laudable principle of economy.

Chocolate (which is chiefly prepared from the cacao, an American production, and constituting a considerable part of their food), as containing a large quantity of vegetable oil and mucilage, is extremely nutritious, powerfully exhilarant, and even aphrodisiac, and is peculiarly serviceable to the aged, the infirm, and convalescent. By boiling it in water with eggs, milk, and sugar, it makes a wholesome nourishing breakfast, but its richness is soon apt to cloy the stomach, and therefore cannot be very long continued, without inducing symptoms of nausea and indigestion. In all cases of cachexy or depraved state of the fluids, inducing leanness, general wasting, or in that species of atrophy called *tabes dorsalis*, brought on by the habitual practice of a solitary and destructive vice, as a restorative, chocolate is found to be of considerable benefit; but a large proportion of milk seems to adapt it better for weak stomachs, than when there is a preponderance of its oily parts, with which it so plentifully abounds. That which is most free from spices and drugs is to be preferred.

Cocoa is very similar to chocolate, though considered not quite so gross and heavy, but as it also contains a large quantity of oil, produces much the same effects on the stomach. The shells of this vegetable duly prepared by being boiled with water and milk, as containing a less proportion of oil, is a very light pleasant drink, and very proper for such stomachs as are incapable of bearing any thing unctuous or greasy.*

* These articles may be had very pure, and accurately prepared, at Mr. White's warehouse, in Greek-street, Soho-square.

Sugar, once considered merely as a luxury, is now become one of the necessary articles of life, is very wholesome, affords a considerable degree of nourishment, and, if not used to excess, is useful in assisting digestion ; it prevents putrefaction, and being a gently solvent and stimulating salt, has a tendency to keep the bowels in a proper state. Its nutritious qualities are very manifest in the negroes, on the plantations, who, from eating the pulp and juice of the canes, at this season get much into flesh. Immoderately used, from its disposition to enter into an acetous fermentation, it is injurious to the stomach, and generates an acrid slimy mucus throughout the whole intestinal canal, and thus obstructs the assimilation of the food. Sugar affords a considerable quantity of spirit, and in distillation yields a large proportion of alcohol. By the same process in its native soil, a pleasant and wholesome spirit is extracted from it, called rum, which is ameliorated by age, and is supposed less corrosive and injurious to the stomach than brandy, or any other kind of ardent spirits ; but many have sacrificed their lives in the West India islands, by taking too copious libations of new rum, for dysenteries, fevers, and many other incurable diseases commonly follow such imprudence.*

There are, no doubt, many vegetables of our own country as well as others, which contain some tolerable quantity of saccharine juice, among which have been reckoned the beet root, carrots, and other roots of the same genus ; but the

* Sugar has been said, by some authors, to generate pituite, and render the fluids viscid ; but Boerhaave, on the contrary, considers it as an attenuating and even saponaceous substance. Some have included sugar among the exciting causes of hypochondriac affections, but without the least foundation. Linnaeus has asserted, that those persons who have accustomed themselves to a liberal use of sugar, frequently attain a very protracted age.

proportion these yield is too small and insignificant to be of much importance to us. The American maple tree, after various experiments, has been found to approximate the nearest to this necessary and valuable article of life, and holds out a prospect of being at some future period matured and brought to a state of perfection; and as the most flagitious of all trades, the horrid trafficking in human flesh, is now suspended by the abolition of the slave-trade, we may expect a supply from that quarter, in sufficient quantities, and at an equally reasonable rate.

In the times of dearth and scarcity of sugar, *honey* and some other sweet substances have been used as substitutes; they are, however, very inferior, as containing an equal quantity of acid, with many more inflammatory particles. Honey readily enters into a state of fermentation, at which time a quantity of air is disengaged from it, which not only causes an uneasy inflation of the bowels, but in some constitutions is very apt to produce gripings and diarrhœa. In a medical point of view, from its lubricating and balsamic quality, it is very useful in many complaints, but in none more so than in tickling irritating coughs, and inflammatory affections of the chest, and is at the same time of a gently opening and cooling quality. As an expectorant, it is serviceable in attenuating viscid phlegm; for sore throats it is a useful detergent, and combined with acids forms an agreeable and efficacious gargle.

To conclude, I would briefly remark, that our principal care and study should be how we feel gratified by partaking of surrounding objects, without exposing ourselves to their injurious effects. The virtue of temperance is coeval with enjoyment, they are indeed synonymous terms, and keeping that in

view, we shall find fresh desires spring up to administer anew to fresh indulgences, without feeling palled or satiated in the repast. We cannot for a moment imagine, that our all-bountiful Creator has surrounded us with blessings for the sake merely of tantalizing us; or, that we are expected to renounce them all as dangerous to our future welfare: but in individuals who are full of relish, hope, and animation, the only penance imposed on us is, that we should live and act as men, and resist the solicitations of our depraved appetites; for in this, and this only, are we distinguished from beasts, who know no other restraint than satiety or sickness.

The following short rules, in harmony with what has been already advanced, will be found productive of advantage to such as shall feel inclined to reduce them to practice.

1. In summer the diet should be moderate, light, soft, laxative, moist, and principally composed of esculent vegetables, ripe fruit, milk, broths, with a copious quantity of thin diluted drinks, assisted by gentle exercise, and avoiding all laborious exertions. No food should be allowed which is easily inclined to putrefaction; with meat the drink may be a little wine and water, or lemonade; but in winter the drink should be stronger, but more sparingly used.

2. In winter, that sort of food which is more compact, solid, and dry, well seasoned with salt, and moderately spiced, is to be preferred. Meats roasted, and bread well baked, accompanied with a more vigorous exercise, are proper.

3. In spring and autumn, a medium betwixt these two will be most eligible, making a proportionate allowance as the weather inclines to one season more than another.

To sum up the whole, we may remark, that a rigid observance of any specific kind of diet may sometimes produce injurious effects on any constitution; for, as nature has provided a great variety of aliments, and has furnished us with desires for, and organs to digest them, it should seem that all of them in their turn, and under proper restrictions, are admissible when we are in health. The rule laid down by *Celsus* on this subject will, perhaps, serve to guide us in some measure, as well as to prove the truth of the position, "*Sanus homo qui bene valet, et suæ spontis est nullis obligare se legibus debet, nullum sibi genus fugere, quo populus utitur; interdum in convivio esse, interdum ab eo abstinere, modo plus modo amplius assumere,*" &c. The meaning of which passage is, that a healthy man, in the exercise of his own discretion, should not be chained down to any precise set of rules, or, from an over-scrupulous timidity, abstain from the moderate use of those things which Providence has blessed him with; that it will be to his advantage sometimes to make one at the festive board of conviviality, at others to live abstemiously; and that he should sometimes indulge in more sleep than at another, in proportion as the necessity of it is indicated by labour or exercise.

He who has fostered an opinion of attaining health and longevity by an unerring state of regularity, not only presupposes what in nature is impracticable and cannot exist, but, in the least deviation from such precision, grown familiar only by habit, he feels very readily the inconvenience, to say nothing of the danger of it. The grand secret of health consists in keeping the solids and fluids in a due equilibrium, adapted to the regular performance of their several functions, and this is only attainable by temperance, and keeping our appetites under moral restrictions. Diseases, premature old age, and

a short life, are the slow, but not less certain, lot of the drunkard, as well as glutton: for, a disordered body, weakness of mind, and a deprivation of intellect, are the awful and unavoidable consequences of a life passed in continual and repeated scenes of debauchery and intemperance.

ESSAY IV.

EXERCISE.

IN viewing the conduct of Providence, who has allotted to every man a certain sphere of action for the exercise of his powers, both intellectual as well as corporeal, and that each is imperiously called upon to fulfil the relative duties of his situation, either as it respects his studies, or the application to bodily labour, for his own as well as his family's support; it is evident, from these considerations, that man was not originally destined for habits of indolence and inactivity, but in the prosecution of his avocations, in whatever state of life he is placed, to discharge his duty to himself, his family, and the public at large, by habitual and persevering industry; which, in conjunction with the object which keeps the mind engaged, is the most essential and certain means of keeping the body free from the attacks of disease. But man, whose distinguishing characteristic it is to be dissatisfied at the dispensations of Providence, frequently supposes that to be an evil which was

destined to operate as his only good. Thus he is often induced to murmur, that he is necessitated to earn his bread by the sweat of his brow; and in looking round on his superiors, he repines at his station, and considers that as hard and afflictive, which Infinite Wisdom has destined to be the absolute, if not the only, method by which he can be put into the possession of the chief of all earthly blessings, a sound body and a quiet mind.

That this necessary species of happiness commonly falls to the share of the more laborious class of mankind, we need only turn our attention to those engaged in husbandry, and various agricultural pursuits, to prove to a demonstration the veracity of the assertion. The industrious labourer, who is obliged to get his daily sustenance by personal exertion, is commonly in the fruition of uninterrupted health; he devours with eager appetite his scanty meal, unassisted by provocatives, which his active and athletic body, by proper exercise, is soon enabled to digest, till the return of eve, when he retires to undisturbed repose, where sleep that is sound and uninterrupted recompenses him for all his toil. Health makes his bed easy, and his wearied limbs, recruited by sound sleep, are adapted for the labour of the ensuing day; to which he repairs with alacrity, with the rising sun and tuneful lark; roses blooming on his ruddy countenance, and every nerve fresh strung with manly vigour. As his wants are but few, he is a stranger to care and solicitude; and his numerous progeny are partakers with him in the same inheritance, passing their days in health and contentment, and enjoying at the same time an uninterrupted state of peace and tranquillity, both of mind and body.

How different is the case in contrasting the situation of such a person, with the idle and inactive, whose days are passed

in pain, and whose nights are languished out in sorrow; who, from the fumes of indigested luxury, are harassed with a long catalogue of distressing diseases; and whilst they are perpetually occupied in contriving schemes for the support of their luxuries, their minds being constantly on the stretch for the purpose of amassing wealth, frequently become the victims of vexation, disappointment, and rank despair!

That man should labour was the sentence of condemnation passed on our first parents by the Creator, when they deviated from that path of purity and rectitude in which they were originally placed: and, therefore, it may be seen, that indolence is contrary to the express decrees of Heaven, and that nothing can be more successfully opposed to our welfare, both in a natural as well as moral point of view. Our hands and feet were given us for the purpose of exercise; and if we omit to use them properly, we cannot fail of suffering by the neglect. The sluggard is exposed to a variety of temptations, and that laziness is the source of much immorality, we need only go a little into the world to be convinced of its truth; indeed, our daily experience and intercourse with it furnish us with too many lamentable examples of human depravity, from which a person of reflection must turn away with disgust.

Looking at the subject as it respects our present condition, we shall likewise find it as certain, that indolence and inactivity infallibly lay the unavoidable foundation of many painful diseases. Hence, in the first instance, obstructions are formed in the body, especially in the finer vessels, upon which the health and vigour of our frames so materially depend, whilst, in proportion as the animal machine becomes clogged or impeded in its operations, the energies of the mind, as an effect from a cause, never fail of being involved in the same

calamity, so that both body and mind imperceptibly dwindle into a state of torpor and disease.

As a branch of the non-naturals, there is nothing I am acquainted with which can by any means compensate for the neglect of a proper share of exercise, let us even be ever so attentive to our regimen and other circumstances, yet it is impossible we can obtain our desired object; nor is there any thing we can possibly swallow, either as it respects our food, or by the way of medicine, unaccompanied with exercise, which can keep us in a state of health; or, when invaded by disease, can we expect or promise ourselves a permanent cure of our malady. It was a judicious remark of *Sydenham's*, that "nothing so effectually prevents the indigestion of the humours, and consequently strengthens the solids and fluids, as exercise;" but, unless it be duly persevered in, and our bodies daily habituated to it, we cannot experience all that benefit which undoubtedly accompanies its use; and, therefore, I repeat, that there is no substitute we can appropriate for the non-observance of this salutary branch of regimen, &c.

When we seriously reflect on what a state of health principally consists, we shall be enabled to discover the absolute necessity of exercise to preserve and restore it. In health, the stomach receives, from time to time, a proper quantum of necessary food; which, by its own spontaneous efforts, as well as the influence of the nerves, it digests and circulates for the renovation of the body, and the excrementitious parts pass off, for the admission of fresh supplies of nourishment. By this kind of progressive motion, the fluids are preserved from putrefaction, and the circulation being thus promoted, is the efficient cause of our food being converted into good chyle, and from thence forwarded to the blood, for the purpose of repairing the constitutional exhaustion of our bodies. To answer these sa-

lutary and, indeed, indispensable purposes of life, the exertion of the united energy both of the solids and nervous influence are necessarily required; but, in a state of indolence, the vapour, or the redundant parts of the fluids, do not pass off in a sufficient proportion, or with the necessary regularity, on account of there not being kept up a proper degree of heat, motion, and activity; hence they are all retained in the body too long, and become putrid, the homogenous parts, from this cause, collect in too great quantities, and form ill-conditioned obstructions, flatulence or gas is detached from the blood, and the whole mass of fluids being imperfectly assimilated, indigestion and many other troublesome complaints succeed. From this lentor in the humours, and being thus unduly retained, the stomach feels no calls for fresh supplies of nourishment; therefore, the appetite becomes vitiated, or daily diminished, and, as people will frequently eat at meals from custom, whether they feel inclined to eat or not, a plethora will be induced with its concomitant evils, and then recourse is had to medicines, for the purpose of obtaining that relief which, by a due attention to exercise, would have been totally unnecessary. These, with evacuations, as, bleeding, cupping, purging, &c. will, perhaps, afford a temporary cessation of the inconvenience; but without exercise it cannot be expected that it should be permanent, seeing that, in the formation of our frames, and the very nature of our constitutions, it was the positive intention of Providence to create in us an absolute necessity for exercise, in order to our well-being.

The moping languor, depression of spirits, and loss of appetite, the offspring of indolence, we soon find become irksome, nay, frequently insupportable; and then too many persons have recourse to drinking, to exhilarate the flow of spirits, and to luxurious and high-seasoned dishes, to whip and spur their jaded appetites; but these expedients are fruit-

less, for art can never supply the place of nature with equal advantage, or, in other words, provocatives and temporary stimuli can never produce that sprightly vigour, that alacrity and flow of spirits, that natural relish for food, and the refreshment resulting from it, which exercise and activity procure; on the contrary, ardent spirits, in any form or quality, gradually, though certainly, undermine and destroy all the vital powers, and induce those diseases which waste and impoverish the constitution. The animal spirits, as I have already remarked, may feel a kind of temporary elevation by the interposition of a dram, but when its effects have subsided, languor and debility inevitably succeed, and the draught requires frequent repetition, till the coats of the stomach being corroded, a dropsy, or some other fatal malady supervenes.

By attention to exercise, the tone and vigour of the moving powers are wonderfully increased, the nervous energy and circulation of the blood are materially accelerated, and this increased impetus of the blood through the whole system produces an effectual determination to the surface of the skin, and a free perspiration is the consequence. By the same means, the body is disposed to sleep, the appetite increased, the tone of the stomach and digestive powers preserved, and the blood is determined from the internal viscera, which prevents as well as removes obstructions, and powerfully obviates the tendency to a plethoric fulness of the system. By exercise the spirits are enlivened and the body refreshed, or, as Hippocrates observes, it gives strength to the body and vigour to the mind, and it is an irrefragable truth, that where it is improperly neglected, the energy and strength of the whole machine gradually fall to decay, a morbid irritability is induced, with all the unhappy train of symptoms which accompany chronic weakness; the natural vigour of the stomach and intestines sustains particular injury, the appetite is vitiated, and

the bile and other fluids employed by nature in the process of digestion are imperfectly secreted and altogether obstructed; the muscular fibres become generally relaxed and debilitated, the whole animal economy is disordered, and a train of nervous and hypochondriacal symptoms, with gout, scurvy, and many other obstinate complaints, peculiarly incident to sedentary and indolent persons, come on as a necessary effect from a cause.

Among that class of people usually denominated the fashionable world, who spend a considerable portion of their time and attention in adorning their persons, although their toilets may be decorated with cosmetics and every implement of art for that purpose, yet, without a strict attention to cleanliness, there must be a total failure of the desired object. Frequent ablutions, linen which never betrays the inevitable effects of perspiration and dirt, clothes unsoiled, a shoe which seems to have never touched the ground, and the general dress appearing like the habiliments of a nymph; this it is which in general may be said to constitute among females the virtue of cleanliness. To this might also be added, a scrupulous care to avoid every thing that can indicate functions which undeceive the imagination.

Women among the ancients were particularly cautious in avoiding every thing which encroached on the disannulment of that graceful imagery of the poets, who immortalized them in their works. At Rome and at Athens, a female could neither spit nor use her handkerchief in public, so very delicate and nice were their ideas on this subject; and if she laboured under the effects of cold, she was under an absolute necessity of not mingling with the public assemblies.

Among the most celebrated characters of antiquity for beauty and elegance, it does not appear that the form or na-

ture of their attire formed the most material objects of attention, but that it was principally devoted to the beauty and preservation of their *person*. They, unlike too many of the present race, did not decorate a filthy body with the gaudy trappings of exterior grandeur, or, as it may be said, adorn a wretched picture with a magnificent frame; they had a more profound theory for their guidance, for the *càre* they bestowed was the result of the esteem they had for *themselves*, under a conviction that every thing is comprehended *in nature*, and that beauty and health, with the amiable qualities of the heart, are, for the most part, inseparable. It is by attention to keeping the skin thoroughly clean, that is the evident source from whence we may foster an expectation of obtaining health, long life, and a happy old age.

The exposure to the vicissitudes of the atmosphere has been considered in the beau monde as greatly inimical to the beauty of a fine complexion; but this, if admissible, is not the only cause of the evil: a laborious life, or excess of pleasure, too much sleep, or too frequent watchings, too intense application, or the languor of a life of indolence or apathy, melancholy and violent passions—as grief, fear, anxiety, envy, &c. are all equally prejudicial to the roseate tint of beauty, efface its blooming colour and diminish its lustre. On the contrary, a life of prudence and regularity, easy and varied occupations, benevolent, exalted, generous affections, the exercise of virtue, with that inward satisfaction which is the precious reward of it; such are the causes which preserve a flexibility of the organs, a free circulation, a perfect state of all the functions, whence results health as well as beauty.

Evil habits of any kind once acquired and established by custom, are, not easily amended, among which none is more difficultly subdued than that of indolence, the gene-

ral effect of which is to weaken the tone of the solids, and deprave all the animal functions. Custom is second nature, and a person may so habituate himself to this vice, till at last it is only with pain and reluctance that he can be prevailed upon to move from his seat. He perhaps forms a resolution of going out at this time, and that time, but when the period arrives, he wants firmness to put it into execution : "*Procrastination is the thief of time* ;" he puts off that which he should do to-day till to-morrow, but when to-morrow comes, he readily avails himself of the most trivial excuse for avoiding it.

Those who are anxious for health, should lay themselves under an absolute necessity of walking or riding a certain distance every day, and although the effeminacy of the present day precludes them from engaging in any of the more laborious occupations which were in vogue among our ancestors, yet such as can be prevailed on to employ a portion of their time in gardening, agriculture, &c. instead of spending so much of it in commercial and studious pursuits, would find it much to their advantage. Men of letters are, of all men, those who sit the most and think the most, and on these accounts are the most sickly and unhappy ; for if study be united with a want of exercise, it then becomes doubly prejudicial to health, and will, if long persisted in, infallibly ruin the strongest constitution. It never fails to destroy the appetite and impair the digestion ; and head-aches, costiveness, flatulence, crudities, apoplexy, palsy, &c. are the certain consequences.

Dr. Cheyne remarks, that, to make labour and exercise as beneficial as possible, two cautions are necessary ; first, that it be not too violent ; secondly, that moderation both in eating and drinking accompany them. Extremes of all kinds are prejudicial ; therefore violent exercise, which either heats the body, or hurries or fatigues the spirits, is hurtful, and will

destroy a young person sooner than if he used no exercise at all, from its very peculiar tendency to exhaust the muscular strength ; and I am well convinced, that many delicate tender constitutions are much more frequently cut off by the former than injured by the latter.

There are many complaints where excess of exercise would prove of the most dangerous consequences. In asthma, for example, rest and quietness are absolutely necessary ; and in others, as consumption, great nervous debility, inflammatory diseases, &c. ; such will only admit of a very moderate degree of exercise, for in cases of this kind, any violent bodily motion, as it would excite an unnatural heat, hurries the circulation of the blood, and increases its vitiated quality, as well as has a tendency to disturb the different secretions and excretions, which must of course very materially aggravate every symptom of the complaint.

That the muscles acquire strength and elasticity from a constant exertion of their powers, is a truth evidently conspicuous to every one who has ever made the smallest observation on the subject ; but still this exertion being carried too far, or too long continued, will frequently be productive of great mischief. That class of people who are under the necessity of acquiring the necessaries of life for themselves and families by their bodily labour, and who by the bye are generally the most healthy, are very often tempted, from motives of gain, to pursue their business beyond their strength, and by such imprudent means, do considerable and irreparable violence to their constitutions. An industrious mechanic may have the inclination to make out seven, eight, or nine days in a week, by working over hours, but he cannot continue to do so long, and if he do, his body must feel a temporary, if not a permanent degree of exhaustion. Exercise therefore should be gen-

tle and moderate, and, if practicable, in the open air, which, as it tends materially to the support of animal life, should be always preferred.

It is therefore in the middle of these extremes that we shall find safety; if the body be exhausted by too much or too violent motion, the fibres will become rigid, all the medullary or oily matter which lies between the muscles will be consumed, as well as the synovia or mucus which lubricates the joints, which waste will induce that stiffness or weariness which we most times feel after taking immoderate exercise; on the other hand, too much rest, or an idle sedentary mode of life, relaxes and weakens the fibres, renders the blood viscid, and retards the secretions and excretions of the whole body, from which may be expected to follow all that train of diseases attendant on too weak a state of the fibres and too viscid a state of the fluids; hence the body becomes diseased, and subject to hemorrhoids, apoplexy, dropsy, and a long train of infirmities.

With a view of rendering exercise most beneficial, there are three rules or conditions to be observed.—First, that it be not resorted to on a full stomach, immediately after meals, for at this time exercise would accelerate the motion of the fluids faster than they are digested. Secondly, that it be not too long persisted in, as to induce lassitude, depression of spirits, or a profuse perspiration: by the first the various organs will be exposed to exhaustion and consequent decay; the second reduces the strength below the proper standard; and by the third, such violence will be done to the animal economy, as cannot easily be restored. Thirdly, due care should be taken that the body be not exposed to cold after exercise. To these should be subjoined, temperance; for although exercise will create an appetite, yet if it be indulged to the full, the

concoctive powers will be as unequal to the load as they were before. A moderate proportion of food, well digested and assimilated, will nourish the body and render it more vigorous and strong than when the stomach is crammed with an immoderate quantity.

Exercise of body may be divided into three kinds.—First, that which is obtained by riding on horseback, or in a chaise or carriage. Secondly, that of simple muscular motion. Thirdly, that from outward application, as friction, &c. Of all the different species of exercise by carriage, that of horse-riding (in health) is certainly the most preferable ; or in diseases arising from obstructions in the viscera, or affections of the nervous system, it is also much more advantageous than any other, from the parts being universally shook by it.

Next to riding on horseback, an open chaise is best, for the closer and more confined the vehicle is, the less adapted it is either to the healthy or invalid. In this sort of carriage, in addition to the exercise of it, the person has the advantage of continually changing and breathing a pure air, the importance of which must be very obvious. It, however, sometimes happens that the motion of either horse or carriage is too much for the delicate frames of some invalids ; indeed there are disorders, such as complaints of the lungs, and many others, in which it would have a very injurious tendency, and materially aggravate them. In such situations, where fresh air is desirable, that end may be advantageously obtained by sailing in a boat or small vessel, at seasonable times of the day, when the weather will permit. The second kind, denominated muscular motion, consists partly in walking, or such employments as call forth the exertion of the limbs, as gardening, digging, and such like. Walking, although it is a kind of ex-

ercise highly beneficial, where the bodily powers will admit of it, yet in some instances it is scarcely admissible, on account of its being more laborious and tiresome to the lower limbs; when this is the case, riding as before mentioned should not be omitted to be substituted in its room.

When, from the bad state of the weather, or other causes, a person is prevented from taking exercise in the open air, which on every account is always to be preferred, there are a number of domestic employments which should be pursued with steady determination, the most inferior of which is much more laudable than a continual state of idleness. Those who have a genius for mechanical pursuits, enjoy peculiar advantage, not only as such labour may be useful, but because exercise of this kind is a perpetual entertainment to the understanding, and is justly observed to be doubly beneficial to the body, when the mind is occupied and participates in the object. Where, however, the taste or inclination does not extend to such sorts of amusements, the dumb-bells will not be a bad substitute, which require to be used for some hours daily. Motions of this kind have their peculiar excellence, for not only are the muscles of the upper part of the body well exercised thereby, but the chest being more opened and expanded, gives more room and freedom for the action of the lungs, which is much enhanced in value, if it can be practised in the open air, and is extremely beneficial where there is any impediment to free respiration.

Friction, in many cases, is very successfully and advantageously employed, particularly for aged persons where the circulation is languid, and the motion of the fluids sluggish. By this is meant a reciprocal pressure and laxation of the part. By rubbing the extremities with a flesh brush, coarse flannel, or

the naked hand, we mutually compress and relax the external vessels, which adds considerably to their contractile force, and thus, by the viscosity of the blood being attenuated, the circulation is more equally performed, as an effect from a cause.

If, in the application of this kind of exercise, we commence the friction from the extremities towards the body, we greatly accelerate the circulation, and propel the blood into the finer ramifications of the smaller vessels.

The best time for friction, as a means of promoting perspiration, &c. is in the morning on rising, for then the superfluous matter, which is sufficiently digested for perspiration, is more readily brought to the surface; hence the solids are unencumbered with any weight, except what is necessary in the retention of the fluids, for the more ready performance of their several operations, which enables the whole economy of the animal machine to go on with greater regularity.

As the mind being fully occupied adds very materially to the advantages resulting from exercise, such sorts should be selected which have a tendency to add to the energies of the body; such for example as hunting, fowling, playing at bowls; tennis, fives, &c. but all such exercise as requires too great an intensity of thought, or anxiety of mind, should be avoided, as entirely defeating the intended purpose of it.

I am well aware of the existing difficulty in advancing arguments sufficiently forcible to prevail on valetudinarians to dissipate their apprehensions, which they have too hastily conceived, of the pain and trouble which attend the first attempts at exercise; but I can with truth observe to such, that if they will be disposed to make the trial, that it may generally be

accomplished, by beginning with more or less, as they find it best adapted to their strength. The most proper rule for their general direction is, to desist as soon as they find themselves fatigued, which at first may take place very soon, but by daily perseverance they will be gradually so far inured to it, as by that means to acquire fresh supplies of strength to encourage them in their object. This, as already observed, is very obvious among the more laborious class of men, who, from early initiation to bodily exertion, acquire a very considerable increase of muscular power. Thus we see the legs, thighs, and feet of a chairman, the arms and hands of watermen and sailors, the brawny backs and shoulders of the sturdy porter accustomed to heavy burthens, all grow thick and strong, and well adapted to their several laborious employments.

With respect to the exercise of children, it is no less important in the infant state than in the adult, and in general they are so much benefited by it, that it is almost next to impossible that they can be truly healthy where it is neglected. In many instances indeed it will make up for indifferent nursing, but no substitute that I am acquainted with will by any means supply its defect. Infants, when in health, seldom remain long in a quiescent state, for nature has implanted in them such an active principle, that when in health, we find it commonly vigorous, overflowing, and with difficulty suppressed; this clearly points out how much they stand in need of bodily motion or exercise; but when this is restrained, and they are suffered to lie in the cradle, or are otherwise neglected, we as surely find them either with distorted limbs, large bellies, general debility, or the rickets, the last of which is peculiarly incident to children thus neglected, and undoubtedly consigns great numbers of them to a premature grave. In every stage of infancy, it is the delight of children to be in constant mo-

tion, which exuberant activity is given them for the wisest purposes, and under no circumstances can be counteracted, without manifest and decided injury to them.

In the early state of infancy, the exercise that seems most congenial with their tender frames, is that of dandling them in the arms, patting them on the back, and gently raising them up and down in the arms after feeding them, taking care that it be not done with too great violence; and in carrying them it is essentially necessary occasionally to vary the position, to prevent a partial deformity, for it is by no means uncommon to find a child's legs become gradually bent by constantly carrying it on one arm.

Friction is also a species of exercise peculiarly beneficial to children, and should be freely applied at every opportunity. When dressed and undressed, rubbing the whole course of the spine and back with the hand, as well as the limbs in general, is very grateful to their feelings, and this they seldom fail of testifying by stretching out their limbs with an expressive smile of approbation. This, therefore, should neither be passed by, nor done in a slovenly careless manner; whilst at the same time the free application of cold water to their limbs, prevents their being excoriated, and in an especial manner contributes to their strength.

When these circumstances have been properly attended to in infancy, it is astonishing how rapidly they acquire fresh vigour, and how early they will be enabled to take to their feet; in this they will soon discover the advances they have made by the motion of their limbs, as well as their desire to be in action; but children who are at first neglected, and squat about in filth and nastiness, not only are disinclined to be moved, but instead of being invigorated, gradually pine and sink into

a state of decrepitude ; the rickets, deformities, or a general decay, are the too frequent and lamentable consequences of such gross and unpardonable conduct.

Upon the whole, we shall find, that in every age, state or sex, exercise is as necessary for our welfare as our daily food ; our bodies may be nourished by our food, but, if not assisted by exercise to throw off its superfluous parts, and carry on the digestion of it with advantage, we shall feel all the inconveniences of plethora and repletion, whilst the body will be harassed by many acute and painful diseases. By giving ourselves up to indolence, we frustrate the purposes for which we were created : for, to say that a person is idle, is to imply that he is vicious ; and if the mind be not engaged in what is useful, it will not only be occupied with what is mischievous, but be eternally anxious for the attainment of such ideal gratifications as will be impossible, from the disappointment and vanity of which proceed most of the miseries which torment us, and render our existence truly wretched.

ESSAY V.

SLEEP AND WATCHING.

THE human body, from the action and self-moving principle with which it is replete, is continually throwing off its superfluous and decayed parts ; with a view of restoring this waste, and enabling it to perform this necessary part of the animal

economy, nature has wisely and beneficially determined that an adequate renovation should succeed this exhaustion, by alternate periods of sleep and watching, as essentially connected with our happiness as well as existence: the one to select and appropriate proper materials for our support and nourishment; and the other to apply those materials for the purpose of replenishing this daily waste, and restoring that consumption necessary for the sustenance of life; without which the whole system would inevitably run into a state of premature decay, and atrophical debility.

A person is said to be awake when the action of the internal and external senses and muscular motions of the body are performed without resistance, and so disposed, that they can with facility exercise their accustomed offices, and be readily affected by objects transmitting their impressions to the mind, and operating on the will; which can only be duly effected by an equal distribution and renovation of the whole nervous system. On the other hand, sleep may be considered as the opposite state to vigilance; and the phenomena attending it seem to consist in the following circumstances. On its approach, both the internal and external senses become more difficultly exercised; the body gradually grows dull, which, accompanied with weight or heaviness, all its functions are for a time suspended; the voluntary motions begin to be retarded, till at length they totally cease. The muscles also, destined to the performance of these voluntary actions, grow flaccid, collapse, and become loose, first in the eye-lids, then in the face, neck, and arms, from thence gradually descending to the lower limbs; and the consequence of this is, that there is a cessation, not only of the corporeal actions, but of the passions of the mind, and their effects on the will also, while, in proportion as the tendency to sleep advances, the respiration becomes deeper, stronger, and slower, and the circulation

being carried on more perfectly in this state, a due concoction, secretion, perspiration, and distribution of the fluids, with the nutrition of the solid parts, take place, and the machine being thus renovated, is adapted to the performance of its various offices.

By this vicissitude in the animal frame, thus acting and resting alternately, we may see it is provided by a wonderful institution of the Creator, that during one half of our lives we should be mere machines, and the other half cogitative or thinking beings; and that man passes a very considerable portion of his life in this state of torpor or insensibility, the vital organs only continuing to act. When, however, these cease *in toto*, a fatal sleep ensues, which we emphatically denominate death; and hence the latter, by the ancients, has been designated as very nearly allied to the former, for sleep and death differ only as to time and extension: sleep is the death of the brain *pro tempore*.

From this suspension of the voluntary motions of the muscles during sleep, as well as from the effects of the mind, it might be supposed *a priori*, that the blood would become viscid and acrimonious; but Providence, ever attentive to the welfare of man, meets this inconvenience by appointing at this period, that the motion of the lungs, heart, arteries, and intestines should be more vigorous, and carried on with more regularity: from whence proceeds a stronger and more equable circulation and admixture of all the vital fluids. Nutrition, and the secretions towards the skin, as well as those of the brain, are increased, from which are derived a fresh supply of spirits for the ensuing day, as well as a restitution of what was before exhausted; hence a more perfect digestion and excretion are obtained, and the insensible perspiration, which, during sleep, is much augmented, is also more readily and beneficially dis-

charged. On account, also, of the solids being at this period in a state of relaxation, and the motion of the fluids more regular, none of the excretions are thrown off by the pores but what are properly digested and prepared to pass off by these channels, whilst the secretions in the brain, by which the nerves are supplied with what is necessary to invigorate them, are, in this state of relaxation, carried on with greater freedom as well as alacrity.

In sleep, the thinner evacuations are more readily taken up by the absorbents; thus we find that the urine in the morning is, when voided, usually high-coloured, and persons who are subject to a loose state of the bowels have also the best stools at this time. During sleep the body is insensible to the effects of internal stimuli, except they are very strong: such, for example, as a violent cough, excessive thirst, &c. If a person take an active cathartic over night, it will take no effect on the bowels till the morning, though the same medicine, if taken in the day-time, would, perhaps, operate smartly in the course of two or three hours.

In a state of watchfulness or waking, the reverse of this takes place, for the vibration of the solids, upon which the motions of the fluids depend, are more irregular and disturbed, and, from a variety of causes, particularly affections of the mind, are subject to alterations; hence the secreting fluids are ill digested, and pass off through improper channels, which are often productive of great inconvenience to the body: for, as the solids are continually in action, a constant supply of the fluids is necessary for their support, which, if not obtained in the same proportion as wasted, the system must become enfeebled by a positive decay of strength taking place from this cause.

On a retrospect of these few preliminary observations, it will be easily perceived how the animal spirits will be exhausted, and the functions of the body injured, by too long a protracted state of watchfulness; the digestive powers will be diminished by it, perspiration partially obstructed, and the body grow dull and heavy; hence, -as *Sanctorius* observes, "whatever hinders sleep, hinders also the perspiration of that digested matter which ought to exhale;" from which it may be inferred, that, in proportion as that state of general relaxation necessary for sound sleep is prevented, in the same ratio the insensible perspiration will be obstructed, and the body deprived of proper supplies of nutrition to invigorate it, so that the animal functions may be carried on with facility.

Watchfulness, when carried to an immoderate excess, exhausts the energy of the nervous system, and in the blood-vessels creates an extreme acrimony. Persons who, from any cause, are deprived of proper sleep, are affected with head-ache, vertigo, hemorrhoids, great anxiety, and moroseness of temper. Those who indulge in much sleep are seldom susceptible of violent passions; whereas, they who have a deficiency of sleep are usually lively and choleric. From the same cause, very extraordinary changes frequently take place in both sexes, which will also occasion the most fantastical and absurd ideas, and even delirium. On dissecting persons who have died for want of sleep, the brain has been found perfectly dry, or in a considerable degree wasted.

It may, nevertheless, be laid down as a general rule, that too great a quantum of sleep is injurious to any constitution, particularly the weak; the nerves and fibres become torpid and relaxed, the muscular motions debilitated, and a state of indolent stupidity supervenes, which is not thrown off the

whole of the day, added to which, that sprightliness, life, and vivacity are wanting, which are the certain consequences of early rising. For the same reason, also, that a moderate proportion of sleep is thus useful, yet, when carried to excess, it proves extremely hurtful: because the state of general relaxation being too far and too long extended, renders the fluids viscid and superabundant, the small vessels become overcharged, and unfit for motion; and when the solids fail of recovering their proper tone, a density takes place in the fluids, and, in a measure, they become sizo, perspiration is obstructed, and the body gradually wastes.

In summer, five or six hours' sleep is sufficient for any person in health, and in winter about seven: where this maxim is exceeded, we seldom feel refreshed from it; on the contrary, those who indulge for nine or ten hours in bed, are commonly very restless the fore part of the night, and at the time when they ought to rise, sink to rest, and slumber on till noon: this imprudent conduct surely relaxes the solids, and on every account must eventually injure the strongest constitution.

But the most destructive practice into which a person can fall, is that of sitting up a great part of the night, and lying in bed the pleasantest and most healthy part of the day; nothing can be more deleterious to health, or more likely to shorten life; and this alone, if even otherwise accompanied with habits of regularity, will be sufficient to undermine the strongest constitution: what effects such a pernicious custom must have on the weak and delicate, must be obvious to every reflecting mind. In young people, hectic fevers, consumptions, and other fatal complaints, are the frequent consequences; while, to such as are more advanced in years, a melancholy train of

symptoms, equally alarming in their nature, will eventually succeed this species of indiscretion. The all-wise Author of our existence has, in his wisdom, appropriated the day for labour, and the night for repose, agreeable to which plan we perceive all things in nature are designed to conform, and whoever runs counter to these established laws cannot thus unwarrantably violate them with impunity.

It is melancholy to observe, among the votaries of fashion and dissipation, what havoc is made on their constitutions by their midnight revels; let any person view their ghastly forms and pallid countenances, and he will feel convinced that, inverting the established order of things, and turning night into day, soon rob the most blooming cheek of its roses and lilies, and in due season blasts and destroys the most vigorous frame.

The light and heat of the sun are the very soul of all created existences, and are calculated to impart life and spirits to all who come under his animating influence. As soon as he declines from our hemisphere, the earth is deprived of his energetic qualities and enlivening rays; and, in the night season, those damp vapours and exhalations which in the day time are so rarefied by the heat and action of the sun as to become altogether innocent, descend abundantly to the surface of the earth, and as these noxious particles are readily absorbed by our bodies, exposure to their influence during the night is likely to prove of very serious consequence; for, by this means, perspiration is obstructed, and the system seldom fails of experiencing, more or less, some of the evils I have already had occasion to point out as arising from the same cause.

A due proportion of sleep is absolutely necessary for the welfare of our bodies, which, as before observed, at this period

receive a considerable degree of nourishment; if, however, it be too short or interrupted, debility ensues, and the vital powers sustaining a deprivation of adequate supplies of nourishment, are exposed to violence and injury. A person, from this cause, will feel, when he rises, a great degree of languor and weariness instead of refreshment; to remedy which, perhaps, nothing will so well succeed as taking gentle exercise, for, as it is probable there may be some obstruction of indigested perspirable matter, which is obnoxious to the system, by bodily motion it may be so far broken down as to pass readily through the pores; for which reason, walking, or any other kind of exercise sufficient to bring on a gentle glow, seems best adapted to remove the inconvenience of such unpleasant symptoms. We, however, seldom find that the active or laborious have reason to complain on this head; it is the indolent and slothful that generally pass restless nights. A considerable portion of human happiness is founded on these alternate vicissitudes of motion and rest; such persons, therefore, as neglect the latter will seldom be gratified by the relish resulting from the former.

On the approach of night the atmosphere becomes damp and gloomy, the vegetable race close their flowers, the brute creation retire to rest, and man only dares to violate nature's prescribed laws at his peril; if we act in conformity to her dictates, appropriating the day for lively exercise, and the night to our rest, we shall then preserve our bodies in health, our blood pure, our secretions regular, our spirits lively, and our limbs vigorous and alert; but if we invert the order of nature, by turning day into night, we offer violence to our constitutions, act in direct opposition to reason, and the whole animal economy must sustain that irreparable injury which I have before mentioned as likely to result from such in-

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discretion; nor is there any thing which can be advanced by way of excuse for this gross species of transgression.

With regard to the hours of rest and exercise, habit indeed sometimes familiarizes what our senses would recoil at with disgust; but surely nothing can be more subversive of order and rationality, than to be slumbering in our beds when all nature around us is awake and busily employed. "*Diluculo surgere saluberrimum est*," says the old proverb (to rise early in the morning), is most wholesome; this, however, should be applied under certain restrictions, for one person will be more refreshed by five or six hours' sleep, than another by double the number; besides, I consider it by no means prudent, except from necessity or business, to rise and go abroad before the sun has dissipated the moist vapours, especially in very hot countries, and the cold air warmed and animated by its cheering and genial influence. It is also equally unwholesome to be abroad after the sun has gone down, when the atmosphere begins to be saturated with fogs and particles of moisture. In all seasons of the year, whether in summer or in winter, when the weather is damp and rainy, a fire is very proper, and at no time more so than in the winter mornings.

This hint, I hope, will be attended to by those persons who consider it almost criminal to go near a fire in summer; but, as in this fluctuating climate of ours, the transitions from heat to cold are sometimes very sudden as well as severe, nothing can be more reprehensible than to shiver under the effects of a cold damp air, rather than break through the common custom of having no fires in certain months of the year, and subjecting ourselves to many kinds of diseases from this absurd cause.

Sleeping in the day-time is, in the general scale, if possible, best avoided, particularly after eating a hearty dinner. If, however, it is admissible at all, it is for persons of weak debilitated habits, or those who do not enjoy a proper repose during the night. If we accustom ourselves to sleep immediately after dinner, the food will pass the lacteals, and get into the blood before it be properly assimilated and sufficiently digested by the weaker attrition of the vessels; whereas, a little moderate exercise might effect a thorough digestion of it before its further progress; nevertheless, as before observed, a little sleep to some constitutions, and under the above-mentioned circumstances, may be allowed; because, at that time the perspiration which passes off may in some degree compensate for the deficiency of the last night, if it has been passed in watchfulness, but it should by no means be too frequently or too long indulged in.

Lastly. Care and anxious solicitude are always subversive of the advantages resulting from undisturbed repose; it is impossible for a person whose mind is depressed with grief, to enjoy the comforts resulting from this blessing. Every one, therefore, who values health should anxiously endeavour to be tranquil, and exonerate himself from all mental disturbance, which not only corrodes and ruins his bodily powers, but destroys and enervates the energies of the soul. To be, therefore, a successful candidate for this chief of earthly blessings, and to make sleep refreshing, he should strictly observe the few following short maxims. First, that he use proper exercise through the day in the open air; secondly, that he do not fill his stomach with a heterogeneous mass of indigestible food at supper; and, thirdly, that he endeavour, if possible, to lay his head upon his pillow with a mind free from perturbation, and unencumbered with solicitude or distracting cares.

ESSAY VI.

CLEANLINESS.

As a branch of dietetic regimen, nothing can be of more importance than a due attention to cleauliness; it is a domestic virtue which pcculiarly recommends itself in every state, age, and condition of life: so much so, indeed, that, where this duty is neglected, and people livesurrounded by unwholc-some vapours, breathing an atmosphere saturated with humid and injurious particles, as well as the noxious exhalations arising from their own bodies, it is impossible, nay, absolutely incompatible with reason or the nature of things, that they can be truly healthy.

Viewing, in the first place, this subject as it applies to children, we may easily convince ourselves of the consequences of such neglect to their tender frames: it is the source and origin of most of the diseases incident to the state of childhood, and affords a very strong argument for endeavouring to expose as well as caution parents, and those who have the care of children, never to allow them to feel the effects arising from a breach of this most important duty, which, as well as others, are so imperiously required and expected from those who have a proper love and regard for their future welfare and happiness.

I know no argument which can be reasonably adduced in

extenuation of this neglect, or which can at all mitigate or palliate the conduct of those who live in habitual dirtiness, for, whether it be referred to the poor and necessitous, or the more superior or middling classes of society, still an equal degree of censure must be attached to it; and where such remissness is predominant in any family, it furnishes at least a very presumptive proof that there are other vices connected with it; for, I know of no greater opprobrium which can be levelled at a parent than that of permitting children to live in a constant state of filth and nastiness; and, wherever this is carried to a great extent, it may pretty generally be taken for granted, that laziness, if not drunkenness, are its concomitants. The poor may not be able to dress their children with finery, but they can, if so inclined, contrive to keep their clothing, however coarse, sweet and clean, and their skin wholesome, which is also of great importance: it surely cannot be attended with expence, and, therefore poverty can never be urged with propriety as an excuse for suffering children to pine in filth and dirt.

Children who are under the care and management of a slovenly mother or nurse (for the thing is just the same), so far from being found in a healthy thriving state, are never free from some complaint or other; some of the most common which assail them are eruptions variable in their virulence as well as appearance. Infants that are not frequently and regularly bathed or well washed, suffer greatly in this respect; it is not uncommon in some, to see their pale and tumified faces covered with scaly eruptions, their bodies excoriated and inflamed, from their linen being wet and impregnated with the saline particles of the urine, &c. while in others, the scald head, itch, and many other disorders equally loathsome as well as difficult of cure, render them objects of pity and regret. Nor does the evil stop here, for nothing is more likely to generate

the various species of worms, with which children suffer such acute misery ; and as to the rickets, a disease attended with large bellies, a softness of the bones, distorted joints, and bent limbs, we well know that nothing is so likely to involve them in these unhappy situations, as neglect of cleanliness. Those who are thus unfortunately circumstanced, never fail of manifesting it, and that very soon, in some such way as I have just pointed out.

There is a great number of filthy customs to which nurses are very prone, as a thing of course, to resort, at which one almost shudders at the recollection ; to notice the whole of them, would occupy a much greater space than can be expected in a little work of this kind. Those, however, which appear to me as particularly deserving of censure I shall briefly advert to.

It is a common practice with many persons entrusted with the bringing up of children, to feed them by the pernicious and disgusting method of making them suck their victuals through a linen bag, in imitation, I suppose, of the breast, and to keep them quiet, by cramming their stomachs with food. Many instances have been known of children contracting the most loathsome diseases, from this abominable practice. A piece of linen, for this purpose, will be torn from an old shirt, or a filthy clout, perhaps impregnated with the relics of some contagious matter, and filled with pap, sugar, &c. The consequences of such a custom may be better imagined than described ; suffice it for me here to observe, that multitudes of children have had ample cause to lament such folly the whole of their lives.

Another beastly custom, equally pernicious in its effects, is that of chewing the victuals of children before they are given

them to eat. This is not only a frequent practice with mothers, but they will tamely permit strangers to be guilty of the same barbarous custom. The mischief resulting from this beastly habit, must be very obvious to every one, for the meat is impregnated with the saliva of persons who may either be affected with a venereal taint in the constitution, scorbutic humours, or a fetid breath from carious teeth and diseased gums ; thus the food is not only divested of what nutritious parts it contains, but, after having been mumbled round the gums some time, is enveloped in the unwholesome juices of some filthy old nurse, and then popped into the child's mouth, so that it is, as it were, completely inoculated with diseases of the most noxious and malignant kinds. Those parents may be considered as accessory to the misery thus inflicted on their children, who do not lay their nurses or servants under the most forcible injunctions to avoid a custom so fraught with incalculable mischief.

There is also another common custom, not less filthy than the former, which equally demands our exertions to counteract. What I allude to, is that of permitting children to be kissed and slavered over indiscriminately by strangers. To say the least of it, there is undoubted reason to apprehend that the humours of a healthy infant may be contaminated by the inpassionate embraces of an infected adult ; and I feel no hesitation in asserting, that the most virulent diseases are this way very frequently communicated. We know that, by embraces of this sort between the sexes, the venereal disease is very commonly imparted, and therefore it is equally probable that children, from perpetual slavering and kissing, may be infected in the same manner, which should operate as a caution to parents, to prevent and oppose such a propensity. Nurses in particular are very apt to fall into this habit, but whoever it may be, it is always best dispensed with. It is also well ascertained that the young and healthy often contract inveterate

diseases by sleeping or being otherwise much in contact with the aged and infirm ; and on the same account it appears to me equally reasonable, that where children are continually inhaling their breath, reeking with noxious particles from the lungs, mouth, and fauces, which must be the case in so much kissing, the same, if not a worse effect is produced, and that sooner or later there will be ample reason to regret that such practices were not timely suppressed by those who have the power to prevent them.

The last circumstance, on this part of our subject, which I shall mention, is the gross neglect of keeping those vessels clean in which the food of children is usually prepared. All vessels made of earthen-ware are commonly glazed on the inside, which process is performed by the combination of a considerable quantity of lead, a more deleterious substance than which cannot be taken into the stomach of any one. Many an infant, from repeatedly warming up its food in these, as well as in vessels composed entirely of lead and pewter, has been absolutely poisoned ; and where the effects have been less severe, yet from the food being more or less impregnated with these metallic particles, violent gripings and other dreadful maladies have accrued ; indeed the meat itself, independent of these circumstances, soon acquires (especially in summer) a great tendency to become acid and unfit for use, and therefore in every point of view, too great care and attention cannot be paid to this subject.

Waving, for the present, any further comments on practices thus destructive in their nature, I next proceed to remark, that uncleanness exposes the body to the more ready susceptibility of infection, whereas by a contrary conduct it is in general securely defended from the attacks of the most formidable diseases ; for in those districts and at those seasons in

which epidemical complaints are found mostly to prevail, even where the plague has been desolating the inhabitants, and spreading around its destructive influence ; those who have been particular as to cleanliness, have generally escaped its ravages, while those who neglected it were certain of falling early victims to it. Incongruous as it may appear, many a child has suffered an acute disease, or ultimately lost its life, from being clad in the apparel of the aged and diseased. Linen, which has contracted any sort of infection from being constantly worn by such people, even after repeated washings, boiling, and bleaching, will still retain a tendency to communicate contagion, for which reason I would recommend that children be never clothed in such garments as have been previously worn by another person ; it is better to clothe them in what is new, though ever so coarse and plain, than suffer them to wear what are commonly called second-hand things.

Whoever has been in the habit of watching the progress of cause and effect, will not, I trust, easily fall into an unwarrantable security and indifference, under an idea that this is an exaggerated account, and that the melancholy picture is portrayed in colours too glowing and forcible. That it is not the lot of *all* to feel the poignancy of such calamities I readily admit ; but at the same time, I must contend, that there are far too many instances existing, even at this period, to confirm and establish the truth of what I have advanced, and who will remain the monuments of such carelessness to the very period of their lives ; I would, therefore, rather expose myself to the imputation of a precisian or alarmist, than hastily pass over things of such evident importance, on which the welfare and happiness of the rising generation so materially depend.

Children, from the moment of their birth till they are in

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some measure capacitated to shift for themselves, have a constant and imperious claim on the care and attention of their parents; and it may be taken for granted, that nothing adds so much to their comfort, and tends to make them lively and strong, as that of keeping their skin clean, and their linen frequently changed.

Nothing relaxes a child more than suffering it to remain any length of time in dirty linen; and if that part of it which is designed to retain the urine and feces be left round their bodies longer than is absolutely necessary, it is productive of very injurious consequences, the disagreeable sensations of which they very soon manifest by general marks of uneasiness, as well as long and vehement crying. The best method of preventing their tender skin from being excoriated as well as the resorption of these noxious vapours, is frequently to examine a child whether it be dry, particularly after sleep, and to lose no time in removing whatever is wet or uncomfortable, extending the same necessary precaution to the cots or cradles in which they usually sleep.

The custom of keeping children labouring under the small-pox, measles, and other nausous diseases, in the same filthy linen, under a supposition of a change being injurious, is replete with dreadful consequences, and cannot be too strongly deprecated by every one who possesses the least spark of humanity; it, in the first place, aggravates the sufferings of the patient; and, in the second, tends very materially to increase the attending danger.

Children, when early initiated to habits of cleanliness (and they generally feel an instinctive aversion to the contrary), are pleased and gratified in being kept so, which the countenance and general aspect clearly evince, and when properly ma-

naged in the beginning, they may, at a very early period, be taught to express their wants and desires, especially those which relate to their evacuations.

These things being therefore duly attended to, children are preserved wholesome and healthy, while at the same time the nurse is relieved from much trouble and inconvenience. In short, nothing will retard children's thriving so much as keeping them in dirty swaddling clothes, or in wet or unaired beds. The most promising means of rendering them alert and vigorous, is a rigid system of cleanliness, by carefully washing their whole bodies, particularly about their private parts, and folds of the skin, to prevent their fretting, and by avoiding heated rooms, or residing in an impure unwholesome air.

Convinced as I am of the misery inflicted on children by the breach of this most indispensable duty, I shall not be considered as having made an unnecessary digression, if it may be so construed, in offering these few remarks on the effects of cleanliness, as it respects the tender age of infancy. I shall now proceed to add a few general comments on the advantages accruing from the observance of this virtue to grown persons. It may from hence be noticed, that with adults as with children, the most general forms in which the effects of habitual nastiness make their appearance are the variety of cutaneous diseases, as the itch, herpes, and others of the same fulsome description; these, from neglect, sometimes run into malignant and painful sores, which with difficulty admit of a cure. From the same prolific source vermin of different kinds find a ready subsistence in these nests of dirt, and people who are so intolerably negligent, are seldom without such unpleasant company.

On the appearance of diseases induced entirely, in the first

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place, from nastiness, which those who are the subjects of them do not sometimes suspect, instead of applying that remedy which common sense might suggest, and which above all others, is principally calculated to prevent as well as cure them, namely, frequent washing and change of linen, immediate recourse is had to washes, ointments, and other applications, to effect a cure; these sometimes fail in the intended good effects, by persevering in the same system of wallowing in filth. Ointments, with all kinds of greasy substances in particular, seldom fail of exasperating the malady, for, by being copiously laid on time after time, without attention to washing, the pores of the skin are choked up, perspiration is obstructed, and perhaps that which, in the first instance, was apparently of but little moment, is ultimately converted into some dangerous complaint, as fever, inflammation, &c.

It is incalculable the mischief produced from inattention to this circumstance of cleanliness, among a vast number of different kinds of artificers and mechanics. Some of these, from the very nature of their employments, even with every precaution, are necessarily exposed to the attacks of very alarming diseases.

Among plumbers, painters, glaziers, and those occupied in manufacturing the various preparations of lead, what painful and distressing sensations do they not undergo! The very air they breathe is absolutely saturated with the noxious exhalations, sufficient to induce colic, palsy, apoplexy, &c. but especially that most painful species of colic or dry belly-ache, commonly denominated *colica pictorum*, or painter's colic. Here one might reasonably imagine that men employed in such dangerous callings would be doubly assiduous to avoid adding to their calamity by the neglect of a little attention to decency and cleanliness; but even with this before

their eyes, we frequently find this class of people either too indolent or indifferent to endeavour to escape such a train of misery.

What can we reasonably suppose will be the lot of that man who will thus wantonly trifle with his health and life, for the sake of saving himself a little trouble? What can we expect will be the inevitable consequence to a man with his hands covered with paint, or absolutely with strata of the calx of lead on his fingers, deliberately going to his meals with his hands unwashed? To such as are open to conviction, and not bent on their own undoing, I will apprize them that in this situation it is next to impossible but that, in handling their food, certain particles of this deleterious metal must be mingled with it, and at the same time that they are satisfying the calls of hunger, they are absolutely swallowing with their meat copious doses of poison, which sooner or later discovers itself, in one or other of the ways already hinted.

Such persons then as are unavoidably obliged to earn their daily bread by pursuing some unwholesome business, should adopt every probable means of averting some part of the danger connected with it; and I have no doubt but that this useful class of men might save themselves much distress and misery, if they would be only particular in keeping their skin clean, frequently rinsing out their mouth with clean water, and making it a determined maxim never to touch any kind of food, or sit down to a meal, without having previously well washed themselves, and their hands in particular.

We may farther remark, that cleanliness is a virtue which is sanctioned and enforced on our attention by innumerable precepts, both divine and human, and where these are imprudently discarded, and persons cannot be easily persuaded to swerve

from their habitual and persevering state of uncleanness not only by such conduct do they expose themselves to the loss of health, but even when afflicted by disease, it is the certain cause of its being greatly protracted, as well as rendered much more difficult of cure.

In fevers, and many other disorders, we are convinced that it frequently becomes absolutely necessary to keep the patient, at certain periods, in a state of constant perspiration, but nothing, with other things, will more assuredly concur to frustrate this laudable intention, than obstinately persisting in a system of filth and uncleanness; whilst, on the other hand, nothing will so readily promote that desirable end, as frequently washing the hands and feet, and sometimes the surface of the whole body, with warm water, or water mixed with vinegar, and a proper change of linen.

The itch, again, a very prevalent distemper among the poor, is effectually encouraged by the same cause; this is known to spread so easily by the contact of a foul person or his clothing, that this nauseous disease is sometimes, from an unsuspected cause, communicated to a whole family, which, in consequence of the very little attention paid by this class of people to cleanliness, makes it very difficult thoroughly to eradicate; though in an individual otherwise situated, and under proper restrictions, nothing is more easy.

To the same fertile source may be attributed the destructive ravages of peculiar epidemical diseases, which, at certain seasons, occasionally spread their baneful influence far and near. The humane and philanthropic *Howard* very pertinently observes, that the jail fever seldom occurs in the prisons of those countries where the prisoners are kept clean and separate, well clothed, and the cells well ventilated by a free admission of

pure air ; but the misfortune is, that humanity is superseded by arbitrary necessity ; those prisoners who are healthy are confined in the same apartments with the sick ; there is an indiscriminate mixture of the aged and young, sick and diseased, all existing, if it may be so termed, in the same state of contamination ; these, added to the uncleanness of the prisons, their being ill aired, and filled with animal exhalations from foul or diseased bodies, are combined evils which give more encouragement to this species of malady than any other means beside.

On making these observations, there can, I think, be very little doubt, but that, if, on the approach of malignant or pestilential diseases, a proper attention was paid to air and cleanliness, those which, in the first instance, even bore a very formidable aspect, might, unquestionably, be easily checked by these precautions ; but for want of attention to them, they are frequently converted into a species of malignant putrescency, which spreads devastation and death to the far greater number of those who unfortunately become the subjects of their attack.

It is remarkable how much the plague, scurvy, pestilential fevers, dysenteries, &c. have abated in Europe within the last century, a blessing ascribable to no other second cause than the improvement of such circumstances as relate to cleanliness, and forms a striking contrast with those countries where it is neglected.

In Constantinople, where the plague has been known occasionally to sweep away such multitudes of the inhabitants, we find their misery widely extended and aggravated by their filthy and inactive conduct ; for under the influence of Mahometism and fatalism, which among these deluded people

are seldom found separable, they superstitiously imagine that they are the blind objects of a predetermined destiny, and leaving every thing to chance, perish in vast numbers, from their want of exertion, considering it criminal on their parts to endeavour to avert, by any human effort, the progress of their devouring enemy.

It will perhaps be found, even in the great metropolis of England, many parts of which are extremely populous, and unavoidably excluded from air, that, upon the whole, it is now much more free from pestilential diseases and contagion than heretofore, on account of the increased care which is taken to keep the streets clean, and the inhabitants being prohibited from throwing before their doors any kind of putrid animal or vegetable substances, the exhalations from which are so well known to introduce diseases and contagion of the most inveterate and uncontrollable kinds. These salutary regulations, together with the improvement of common sewers, and a plentiful supply of water, has done more for this purpose than any other means which could have possibly been devised; and from these circumstances only it is reckoned, that even since the days of Sydenham, we have not been visited with any general malignant or epidemical fever, to any very extraordinary extent. There are yet, doubtless, a great many things appertaining to these subjects still remaining, capable of being much farther improved, which, if properly enforced, added to the natural advantages of its situation, would tend to banish those diseases from it altogether, and, in proportion to its magnitude, render it one of the most salubrious spots in the world.

Frequent ablutions or immersions in water are, at all times, attended with extraordinary beneficial effects, and may be considered in truth as among the most effectual antidotes to

the production of many of those distressing maladies, which tend so materially to render human life miserable.

Among the nations of the east, where repeated washings and purgations form a very prominent part of their religious ceremonies, we find them much less afflicted with pestilential diseases than, from a combination of circumstances, we might be led to expect. The frequent washings and purifications enjoined on the Jews by the Levitical law, were, no doubt, symbolical and correspondent figures of that internal state of purity which is required by God of man, to render him an object of divine favour; and however superstitious or absurd, on a superficial view, they may to some persons appear, there can be little doubt but that the most salutary effects were the inevitable consequence, and that, from such an institution, they escaped many of those fulsome and filthy diseases which affected such as neglected or treated with indifference those religious rites.

It was an observation of the immortal *Boerhaave*, that "cleansing of the external skin, rubbing, washing, bathing, swimming, &c. are extremely salutary," and indeed of so great an importance are they, that it is really next to impossible that any one should be truly healthy who lives in the constant and habitual neglect of them all.

From the whole superficies of the body, there is perpetually exhaling an incredible quantity of moisture, which we denominate the insensible perspiration, and which cost *Sanctorius* no less than thirty years fully to comprehend. This is so essentially connected with health, that as soon as it becomes obstructed, from any efficient cause, diseases of the most inveterate kinds are frequently generated, nay, it may, I think, truly be said, that two-thirds of our complaints arise, in the first

instance, from obstructed perspiration; and that this must infallibly be the case, where the skin is covered with dirt, and the pores rendered almost impervious, by a continual accumulation of it, cannot, for a moment admit of a shadow of doubt.

Nor is an attention to this circumstance of less consequence in the various diseases incident to human nature, than in the preservation of our health. We must feel a conviction that many of the most distressing and painful disorders, which in themselves are of so foul a nature as to call for the most sedulous attention to cleanliness, are rendered doubly afflicting by its omission. Take, for example, a person labouring under the confluent small-pox, with the whole surface of his body in one continued mass of suppuration, how must the sufferings of such a one be increased by confining him to the same filthy linen throughout the different stages of the disorder? And yet, strange and incredible as it may appear, it is with the greatest difficulty that people, in common, can be prevailed on to comply with so highly necessary and salutary a requisition. Though this is strongly enforced and insisted on, as a thing essentially connected with the comfort and welfare of the individual, some preconceived absurdities are advanced in opposition to it, and perhaps, under the idea of taking cold, or some other pretence equally futile and preposterous, the unhappy patients, in an excoriated state, are compelled to wallow day after day in an absolute covering of putrid sores, in immediate and close contact with the skin, perhaps from ten to twenty days, till they not only become offensive to themselves, but thoroughly obnoxious to every one around them. For my own part, I feel well assured in my opinion; and I think common observation will bear me out in it, that many have, by such obstinate perverseness, been sent to their graves, who, under different management, might have struggled through the

disease, and finally have recovered. Certain it is, that there are many diseases of this class which might be considerably alleviated, if not carried off altogether, by a proper attention to cleanliness; and it is equally unquestionable, that many of them, which, on the first attack, might by this means have been checked, have ultimately been converted into disorders of the most obstinate and malignant nature, merely from this inexcusable neglect.

In seasons when epidemical and pestilential diseases prevail, their destructive influence is often extended far and near by non-attention to this same circumstance. In the apartments of persons thus situated, it would evidently appear, one would conceive, to every one, of what vast consequence it must be to keep them sweet and clean. In order, therefore, to promote so desirable an end, every thing offensive, as the stools, urine, &c. should be removed from the room as soon as possible after being evacuated. No one should be permitted to eat and drink in it; and, as a farther preventative of extending the infectious effluvia, even the swallowing the saliva, in such situations, should be strictly prohibited; but things of this sort are but too often sneered at, as useless and superstitious, particularly among the middling and lower orders of society.

Many a time during the raging of a prevailing putrid fever or dysentery, I have seen a whole family in the sick room, sitting round a good fire eating and drinking, as though nothing had happened, with the total exclusion of every breath of air; and have positively persevered in so doing, in opposition to all advice or remonstrance. Who, under such circumstances, can wonder at the rapid and uncontrollable progress of that infection, which we so frequently observe to depopulate whole villages and districts? The most proper conduct,

in such complaints, is to admit, at proper times of the day, as much fresh air as possible, to sprinkle the room with hot vinegar, or quench a heated iron in it, so as to produce a copious vapour, and to indulge the patient with frequent changes of well aired clean linen.

Persons who visit the sick labouring under infectious diseases should never go into such situations with the stomach empty, but should previously take a glass or two of generous wine, and promote a discharge of saliva from the mouth, by chewing some of the pungent aromatic spices, as cinnamon, zedoary, myrrh, &c. and at the same time to make it a point not to remain longer in the room than can be possibly helped, for there are many constitutions which have resisted and escaped infection for a short time, who, nevertheless, have been ultimately overpowered, by remaining in it too long, and have fallen victims to their temerity.

Nurses and such persons as are much about the sick should frequently stuff their nostrils with some strong smelling herbs, as rue, tansy, &c. or else with dossils of lint, or sponges dipped in vinegar, and every means should be employed which can reasonably tend to purify and meliorate the quality of the air, to effect which, I am acquainted with nothing so efficacious as the fumigation, with the vapour of nitric acid, as directed by Dr. Carmichael Smith, to perform which, I have given ample directions in my recent publication of the *New Practical Family Physician* ;* and have briefly touched on it in another part of this work, on regimen, &c. in fevers, which has been proved to answer the most efficient purposes, both in the army and navy, for arresting the progress of pestilential contagion.

* Published by J. Cundee, Albion-press, Ivy Lane, Newgate-street.

As a branch of this subject, there is nothing, I conceive, of more general utility than the frequent use of baths ; even simply washing the feet occasionally, is a very beneficial practice ; as the dirt and sweat with which these parts are at most times loaded cannot fail to obstruct perspiration, and likewise to be of a very offensive as well as injurious tendency. If people would be persuaded to resort to this practice in the evening, after having been exposed in the day-time to wet and cold, it would certainly be the frequent means of preventing the occurrence of fevers, and many other troublesome disorders, which, for want of such precautions, we find, so often involve them in perilous and unpleasant situations.

Inuring children to cold bathing is also generally attended with the most decided advantage, particularly those born in or near London, who are commonly supposed to be of weak constitutions ; and provided they labour under no organic disease, or any internal obstruction of the viscera, it is of signal benefit to their health, and keeps the skin from being fretted or excoriated by the saline particles of the urine, &c. In conjunction with proper exercise, it is of all things one of the best calculated to endue them with a vigorous constitution ; the circulation and secretions are promoted by it, and, if duly and properly applied, I know not a more effectual antidote against the rickets, scrophula, or glandular obstructions of any sort, with many other disorders equally obstinate and afflictive. It may at any time be readily ascertained whether the cold bath is likely to be serviceable or otherwise. If a person, after bathing, feels a genial glow of warmth pervade the body, with an increased degree of vigour, it is likely to be of advantage ; if, on the contrary, he feels a cold or chilly sensation remaining some time after, it should not be persisted in, as being unlikely to be productive of any good effect.

A strong mark of its agreeing with children is, when they come out of the bath warm and lively, with an evident augmentation of strength on a repetition of its use. But, on the other hand, if they continue cold some time after, are dispirited, timid, and seem rather to decline in point of strength than otherwise, it will certainly be as prejudicial to them, and therefore had better be suspended. The best time in the day for bathing is before breakfast, having previously taken a little moderate exercise, so as to excite a small degree of glow ; but neither adults nor children should go into a bath immediately after a meal, on a full stomach, and especially when the body is greatly heated.

To conclude, we may observe, that cleanliness is a virtue which recommends itself to our attention, not only as being congenial with our nature, but as a circumstance of the first magnitude and importance to society at large. In this view it ought therefore to be strongly enforced and cultivated in every situation and condition of life, whilst every means should be adopted to encourage and facilitate its advancement, for in proportion as it is properly attended to, in the same ratio will it be productive of a general good : indeed there can be very little doubt, as I have already remarked, but that some of the most complicated and aggravated diseases, which are a scourge to human nature, might be well nigh extirpated from the earth, by a proper and universally strict attention to the virtue of cleanliness.

ESSAY VII.

OF THE EXCRETIONS AND RETENTIONS.

UNDER this branch of our subject we include the saliva, the bile, feces, urine, perspiration, menses, lochia, and the milk; each of which I intend briefly to treat on, beginning first with the saliva.

The saliva is a fluid insipid and inodorous, the purpose of which is to assist digestion, as well as to augment the nutritive quality of our food, and should therefore never be thrown away unnecessarily, for the consequence of this is, that the primary and subsequent concoctions are disturbed by it, and the digestion altogether depraved. It is common for persons who do not swallow a sufficient quantity of it, to complain of thirst, and dryness of the mouth; and such commonly fall into an atrophical state from that loss of nourishment which is usually derived from this fluid. It is also to be observed, that they who reject the saliva by too much spitting, feel much less disposition to hunger than others, and it is for this reason that soldiers and the poorer classes of people often smoke or chew tobacco, to promote this discharge, in order to counteract the pressing calls of hunger; for those who at this time spit abundantly, gradually waste, fall from their appetite, exhaust the body of its laudable juices, and thus induce a consumption, or some other malady equally fatal.

Melancholy and hypochondriasis were by the ancients (par-

ticularly *Hippocrates*) reckoned among the evils arising from a too copious excretion of this fluid; and *Ruysch* relates a case of a man who was entirely deprived of his appetite by a fistula in one of the salivary ducts. *Drelincourt* judiciously observes, that the saliva being swallowed and again incorporated with the blood, returns to the glands, and in this improved state, acts as a perfect menstruum in the solution and digestion of our aliment. There are certainly none of the fluids of the body more necessary to the support of health than this, for not only does it, during the digestive process, more readily dissolve the food and promote its due assimilation, but, by its saponaceous quality, it cleanses and carries off that viscid mucus, which clogs the *primæ viæ*, and would otherwise impede this process. When therefore from any cause there is a deficiency of the saliva, the digestion in the first passages becomes depraved, which cannot be corrected by any other exertion of the viscera, and from hence are induced many troublesome disorders.

The progress of health is very considerably influenced also by the state and quality of the bile, which, from its solvent and saponaceous principle, seems adapted for the correction of acescency in the first passages, to assimilate the glutinous and oily parts of our food, and to blend them into a more intimate and uniform mass.

The bile is sometimes propelled into the stomach by the undulating motion of a ship at sea, or from riding in a carriage, which commonly produces very distressing symptoms; but there are persons who can bear the jolting of an uneasy carriage without inconvenience, who would suffer very considerably from riding in one hung on tender springs, such as faintness, nausea, and vomiting, though in these cases it may

be rather considered as the effect than the cause of these symptoms.

The bile, in a vitiated state, or when not duly secreted, will sometimes become obstructed in the liver and gall bladder, and is thus either secreted in a very small quantity, or perhaps suppressed altogether; for as age advances, the liver becomes indurated and diminished in bulk, and is therefore the cause of many serious complaints. An inordinate use of ardent spirits, as well as a life of inactivity, inspissates this fluid, and occasions biliary concretions in the gall bladder; this diminishes its secretion into the intestines, and is the grand source of indigestion, obstinate costiveness, and hypochondriacal affections. In children, when the bile is not duly secreted and carried off, we find them affected with large bellies, and they become liable to spasm and other diseases arising from aescency in the *primæ viæ*. When the bile, being once formed, is not properly carried into the intestines, it is absorbed by the lymphatics, and returned into the circulation, and then occasions the jaundice. Indurations of the substance of the liver itself sometimes take place in these cases, and then a dropsy or some fatal malady follows.

When, on the contrary, the bile is too abundantly discharged, our food is deprived of the chief instrument employed by nature in chylication; hence the digestion becomes depraved, the separation of the chyle is obstructed, and the expulsion of the excrements retarded. This therefore produces a general distemperature of the system, particularly of the fluids, and persons liable to these affections are subject to feel a preternatural degree of coldness, extreme debility, paleness of countenance, with frequent and reiterated fits of fainting.

It will, perhaps, hardly be supposed that in the *haut ton.*

there is positively a fashion even in disease. At one time the bile is the sovereign enemy of their repose ; at another, nervous disorders, as they are vaguely termed, seem the order of the day. In conformity with these absurdities, we cannot altogether be surprized at the hordes of daring empirics and unprincipled quacks, who, taking advantage of such opportunities, are daily springing up, and riot in all the luxury and extravagance of life, at the expence not only of the credulity, but the very health and lives of the community, in opposition to all reason, argument, and common sense. Thus we find the columns of our daily prints filled with the most *astonishing cures*, effected by patent antibilious pills, nervous cordials, &c. &c. and these even attested by some of the first names in the country, the Lord chief Baron, the Archbishop of Y——, and many others of equally high rank ; and melancholy as the fact is, we find among this catalogue of impostors, some of the established clergy of the church, who for want of bread, are absolutely compelled to a want of principle, and thus sunk and degraded, enter the lists of these champions, with all the arrogance and self-confidence of the most determined deceivers. O shame ! where is thy blush ?—When will such iniquity meet its deserts ?

Baglivi has with great propriety attributed certain diseases to a vitiated state of the bile ; but enthusiasts have not been found wanting, who have extended the idea of bilious disorders much beyond their real existence ; and indeed, in its turn, it has by many authors been considered as the absolute source of almost every disease which invades us ; but we should be cautious how we are deluded by such rhapsodical theories. *De Haen*, *Tissot*, and others of equally sound judgment, have, in their works, laboured particularly to expose the evil tendency of such hypothetical dogmas, and have satisfactorily proved their absurdity.

The state of the bowels is a subject which imperiously calls for the most careful attention, as on this circumstance, much, as it respects our comfort, will necessarily depend. In health, it is requisite that the feces should be of a moderately firm consistence, which is an ample proof that all the nutritious parts of the aliment have been taken up by the lacteals, and duly appropriated to the necessary waste and exhaustion of the animal machine. When, however, they are too hard, from being longer than usual retained in the bowels, consequences of the most injurious tendency frequently follow; such as head-aches, inflamed eyes, fevers, particularly in irritable habits, and not unfrequently ruptures of different kinds, even apoplexy, have been the consequence of paying too little attention to this particular.

An obstinate constipation of the bowels produces flatulency and painful distention of the belly, and even convulsions in persons in whom there exists a predisposition to hysterical and hypochondriacal complaints. The effluvia arising from too long retention of the feces being absorbed and carried into the circulation, occasions a considerable acrimony in the fluids, and sometimes an obstinate species of cutaneous eruptions. Dr. *Zimmerman* makes mention of an hypochondriac person who had a stool only once in a fortnight; his excrements were of a green colour; and notwithstanding that he laboured under such habitual costiveness, yet his appetite remained keen, nor did he feel any uneasy sensation from that circumstance. *Trioen* relates an instance of a female, far advanced in life, who had a most singularly obstinate constipation of the bowels, which for *three months* resisted all the combined means of art, and of course terminated in death. It is not only from the feces being thus preternaturally retained that such imminent danger accrues, but this is also greatly aggravated by the vast quantity of fla-

tus, which under such circumstances must be pent up in the intestines.

An habitual diarrhœa or looseness of the bowels is productive of equal danger and inconvenience as habitual costiveness; its occasional occurrence, however, is by no means to be considered always as a disease, or as being inimical to health, for it is frequently an effort of nature to dislodge and expel something morbid from the intestines; yet, when it occurs too often or too copiously, and long continued, some material defect, or latent disorder in the abdominal viscera, may be very justly suspected. Under circumstances of this sort, it becomes absolutely necessary to attempt moderating it by the application of medicine, for otherwise the body will certainly be deprived of its due nourishment, the strength and spirits be exhausted, and ultimately, if not timely restrained, it will become the cause of disease, of which in the first instance it would in reality be only the effect. For this reason, it has been judiciously observed by practitioners of the first celebrity, a lax state of the belly is unfavourable in such complaints, and that a costiveness of even fifteen days duration is less injurious in its consequences than a diarrhœa of only a single day.

In hot countries, where a very large proportion of the fluids is exhaled by perspiration, we find the excretion of urine to be considerably less than it is in those of a more frigid temperature. Women, when in health, are commonly enabled to retain their urine without inconvenience a much longer time than men, which appears to be rather the effect of custom than otherwise; but in all situations, ages and sexes, such a practice is certainly, if possible, best avoided. When the urine is too copiously discharged, from a morbid state of the organs connected with this secretion, it causes an insatiable

thirst, leanness, depression of spirits, and prostration of strength, and constitutes that species of disease called diabetes, in which the urine evacuated is white, turbid, inodorous, sweet to the taste, and partaking of the quality of chyle. The cause of this malady is a relaxation of the vessels of the kidneys, which harasses the patient more or less during life, being a complaint which seldom admits of an effectual cure.

The urine, in a natural state, is, in its consistence, somewhat similar to that of beer, moderately boiled and fermented. Its natural smell also is strong, sulphureous, and offensive; if it be entirely inodorous, it denotes that it has been retained too short a duration of time in the body; if it be peculiarly offensive to the smell, a corruption or ulceration of the kidneys, or some part of the urinary passages, may be presupposed. The taste of urine is salt and nitrous; the quantity in a healthy person is about a third part of what is drunk; this being exceeded, argues a debility, with too great a laxity of the urinary passages, the effect of which is to expose the person to a wasting or contabescence, terminating ultimately in death. The urine being smaller in quantity, unless proceeding from a deprivation of liquids, denotes an extraordinary degree of heat in the system, evaporating the serum at every outlet of the body; or it may otherwise arise from an obstruction of the urinary passages, from which many chronic diseases are induced, but more especially a dropsy, which, if the constitution be previously much impaired, leaves very little probability of a cure.

A retention of urine in all situations, and under all circumstances, should be considered as a dangerous and alarming symptom, and as laying claim to the most prompt and speedy means of relief, which, if not obtained, will most assuredly

soon destroy life. In this complaint there is a total distention of the bladder, ureters, kidneys, &c. and the stagnant urine, from the putrid tendency it acquires, corrodes, weakens, and destroys their action, communicating an acrimonious quality to the whole mass of fluids, which, by injuring the delicate fibres of the brain, occasion anxiety, stupor, vertigo, apoplexy, and death. In pregnant women, or in or about the time of labour, the occurrence of this symptom calls for the most speedy means of relief, for the want of which many a woman has had to contend with a retroverted uterus, or a ruptured bladder, the dreadful consequences of which must be sufficiently obvious.

In some persons the urinary bladder, on a gradual distention taking place, has been seen to rise above the pubes, whilst the great irritation, from excessive but ineffectual efforts to discharge its contents, has carried it downwards into the scrotum. In others a suppression of urine has taken place, from an obstruction in the ureters, the one from some primary affection, and the other from sympathy of parts. Too great a distention of the bladder, from whatever cause induced, deprives it of the power of exercising its contractile faculty, which, unless soon relieved by surgical assistance, must end in a rupture of it, and consequent death. The celebrated *Tycho Brahe*, being in a coach at Prague, with the Emperor, through a false complaisance retained his urine so long, that when he afterwards endeavoured to evacuate it, his efforts were fruitless, for, from over distention, the contracting power of the bladder was destroyed, and he fell a victim to his refined but false notion of delicacy.

The insensible perspiration varies in quantity according to the difference of climate, season, age, sex, and general mode of living.

In temperate climates, the stools and urine, in a healthy man, who takes about eight pounds of different kinds of aliment in the twenty-four hours, seldom exceed four pounds, the remainder being carried off by the insensible perspiration. This discharge is carried on with great freedom in a clear heavy air, but in proportion as the atmosphere is more light and obscure, in the same ratio it becomes interrupted in its progress; nevertheless, this circumstance will, in great measure, depend on what has been already hinted, particularly the specific heat or coldness of the climate, it being copious in the former, but scanty in the latter.

In old age the excretions by stool and urine are more copious than in youth, and on this account it is that old people perspire much less than the young. The use of hard indigestible food has a very powerful influence on this evacuation, which it seldom fails to diminish; while, on the other hand, liquid sorts of food, and such as are easy of digestion, tend materially to increase it. It is also considerably augmented by the use of hot bathing.

Sanctorius, who paid an uninterrupted attention to the subject of insensible perspiration, after spending thirty years in the investigation, by making an infinite number of experiments, reduced the whole, at last, to a few observations and general rules. He found, for example, that at one day, the weight of his body was 120 pounds, and the same on the next day at the same hour; but then the urine and intestinal feces weighed almost three pounds, while the aliments taken in, both solid and fluid, weighed eight pounds, from which he concluded, that as no addition was made to the weight of the body, the other five pounds of the ingested aliments must have passed off by some unknown channel; and as out of eight pounds of meat and drink, four ounces only were evacuated by the intes-

tines, and sixteen by the urinary passages, he justly concluded, that an immense proportion of our food was exhaled by the insensible perspiration.

A considerable increase of the insensible perspiration is distinguished by the term *sweat*, which, being contrary to the prescribed laws of nature, and having a peculiar tendency to excite debility in the system when too long continued, has, with propriety, been considered as a dangerous disease, for, in a healthy subject, it should scarcely ever take place, except from errors in diet, or from the use of any violent kind of exercise. When this excretion is too profuse, it approaches to the nature of, and produces nearly the same effects on the body, as too copious a flow of urine, that is, it becomes oily, thick, and fetid, inspissates the blood, renders the fluids viscid, and disposes the body to diseases of the inflammatory kind. When an increased discharge of this fluid takes place from weakness, or an impoverished state of the blood, which is very often the case, the cure will evidently then consist in restoring its density and compactness; otherwise, if neglected, the disorder may have a fatal termination. Sweat, therefore, can only be accidentally useful, under certain circumstances. The more we perspire beyond the standard of health, the more likely we are to feel debility therefrom. This weakness being more evident, may, in many instances, be remedied *pro tempore*, by taking a glass of wine and a little nourishment.

The prevailing idea among the vulgar and illiterate is, that most disorders, without exception, are to be cured only by copious sweating, as the vitiated humours which cause them must, of necessity, be thus discharged; but it is, I believe, almost an unanimous opinion among practitioners, that this is an ill-grounded prejudice, fraught with incalculable mischief;

and there can be little doubt but that the most fatal effects have taken place in those who have, without information on the subject, fallen into so gross an error, and that many persons, extremely bigoted to their preconceived opinions, have, from the excitement of excessive sweating, been attacked with inflammatory diseases, rheumatism, cutaneous eruptions, and even consumptions, or have become the most marked instances of hypochondriacal affections, after having converted their bodies into so many vapour machines, with a view of curing imaginary ills, and thus to aggravate those complaints which, in the first instance, under a little judicious treatment, might have been carried off without much trouble.

Sudorific medicines should, at all times, be administered with caution, and varied according to the particular nature of the disease, which depends on the peccant matter, and the efficient or applying cause, that is, the vital power: thus if the matter be viscid and tenacious, we administer stimulants, as alkalines, &c. but if it participate of the nature of lues venerea, then mercury determined to the skin will be clearly the best remedy.

A person whose perspiration is free and full, seldom sweats, except it has, at any time, been previously obstructed, or too violently urged by heating medicines, &c. the consequence of which is, that being of a much more viscid nature than the insensible perspiration, the perspiratory papillæ become obstructed, or at least contracted in their diameters, and hence, by injudiciously endeavouring to promote a too copious perspiration, we frustrate our intention, and, instead of forwarding it, absolutely impede and prevent it; for whatever produces a diaphoresis, or gentle perspiration, if too much increased or continued, produces a copious sweat, which propor-

tionably diminishes the sanctorian perspiration, and relaxes the vessels beyond the standard of health.

Perspiration, when retained or diminished, is, by no means, of so dangerous a tendency as too great an excretion this way, because at that time there is a much more copious discharge of urine, &c. It may, however, be previously supposed that a sudden check to perspiration must be productive of many inconveniences, which is really the fact; for in this case, the small vessels of the skin become dry and withered, by which means the excretory ducts are obstructed; hence a change takes place in the whole circulating fluids, the acrid particles, which should have been exhaled, are retained, producing fevers, erisipilas, rheumatism, inflammation, abscess, paralytic affections, &c. If we now suppose the perspiration to be very considerably suppressed, those noxious particles which ought to have passed off, becoming stagnant or again mixed with the blood, must produce the most serious consequences, and a more speedy putrefaction, as the perspirable matter is more subtile. Nor is the exposure to night air, especially in hot countries, less dangerous in its effects, for the colic, dysentery, diarrhœa, &c. are often the result of it.

An incurable deafness not uncommonly follows a suppressed perspiration, though in these matters much must and will depend on habit.

Going immediately from the hot to the cold bath is a very ancient practice, which one might at first conceive to be fraught with the most fatal consequences. The Romans did this, and even in the present day it is a very common custom among all ranks of people in Russia, and many other countries. We learn that they bathe twice a week in water heated to 160

degrees, and with the pores open go immediately after and roll themselves in the snow, and this with apparent advantage. So much for habit.

The catamenia or menstrual discharge, varies considerably in women, according to different circumstances. In hot countries this evacuation makes its appearance at a very early period. In Spain, Italy, and the more southern climates, women begin to menstruate so early as at twelve years of age, which is the reason why girls, at that period, are, by the Roman law, declared marriageable. *Shaw* informs us, that in these countries women bear children at eleven years of age, and at four-and-twenty are grandmothers. At Goa girls conceive at nine, ten, and eleven years of age, and at thirty are past child-bearing.

Women, in general, who are of a soft, lax, corpulent habit, who drink freely of slops, and indulge in indolence, are liable to have this discharge very copious, unusually frequent, and returning at short intervals; for this, the best remedy appears to be gentle exercise and a nutritious diet; if this be neglected, a dropsy supervenes about the fortieth year, of which they perish; or if, in the mean time, they should happen to conceive, from the relaxed state of the organs, they are subject to frequent abortions.

In cold mountainous countries women do not begin to menstruate till a much later period, not commonly till they have reached fourteen years, and if the menses appear earlier than this, it is owing to some peculiarity of constitution. If they be delayed till the eighteenth year it is usually the effect of disease.

In countries remarkable for extreme cold, as in Scythia,

Greenland, &c. the women not only menstruate very sparingly, but more frequently are totally destitute of the menses altogether; they are also furnished with very small breasts, and from their approximation to the nature of the male, are said to be sufficiently robust and capable of bearing fatigue, to accompany their husbands in war. In fine, those women who are endowed with hard strong fibres, of a dry, lean, muscular habit, and such also as are accustomed to hard labour, have the menstrual discharge in a small quantity, very slow, at longer intervals, or even sometimes not at all.

In temperate climates this evacuation is more considerable in quantity; but in women who are fat, live moderately, and drink sparingly, the discharge is but little, nor are they affected with irregularities in this particular, for the menses will return in such exact periods, that from the precursory symptoms they are enabled to ascertain the very hour of their approach, which is announced by acute pains in the loins and about the region of the womb.

Women of a melancholy temperament also menstruate but little, and that at irregular periods; but such as lead luxurious lives, living in the confined air of large towns and cities, suffer great inconvenience from the frequency of this evacuation; it is not unusual for such women to menstruate every fortnight, and upon its declension to be constantly affected with that species of discharge called *fluor albus*.

Young women, also, of a lascivious disposition are liable to frequent returns of the menses. Love, observes *Haller*, accelerates the impetus of the circulation, increases the number of pulsations, and occasions an inequality in the pulse, which may be ascribable to the fear which is the usual concomitant of love. This being a passion uncontrollable, as it approxi-

mates the desired enjoyment, is accompanied with extreme heat, violent pulsation of the heart, tremor, increased activity, and imparts, as it were, the sensation of fire circulating through the vessels; from which cause it often happens that women, prior to the moment of consummation, fall into something of this state.

The first approach of the menses, which generally takes place about the age of fifteen or before, becomes necessary for the preservation of health, as is manifest by a variety of different symptoms in different women, occurring previous to the event actually taking place. The most common of these are a tension and uneasiness about the lower part of the back and the womb, head-ache, pain and swelling of the breasts. Some are affected with a troublesome diarrhœa, others with nausea, giddiness, lassitude, and cramps in various parts of the body. The discharge having made its appearance, goes on increasing till the third day, and then commonly disappears altogether. This is the most general progress of it in healthy women, though it sometimes lasts only two days, and in others is protracted even to the eighth day; but in these cases it may generally be taken for granted, that there is something amiss in the system which requires amendment.

It is a very common thing, after the first appearance of the menses in young women, for a cessation or detention of them to take place for a considerable length of time, even so long as a whole year, during which period they are found to labour under all the inconveniences incident to chlorosis or a cachectic habit; the appetite becomes vitiated, the general appearance of the countenance sallow and livid, and in this unpleasant state they may go on to a very extended period before the menses follow at regular periods. Generally speaking, however, in health, after the evacuation has been got into a proper train of regularity, it for the most part appears every

thirty or one-and-thirty days, and during pregnancy it usually ceases altogether; still to both these rules there are, no doubt, some exceptions.

The necessity women are under, for the extraordinary supply of this superfluous blood, beside what is expended in ordinary ways, arises from the need they have of it during the time of gestation, for the support and nourishment of the fœtus, which in an unimpregnated state is the cause of this redundancy. This plethora is therefore absolutely necessary for the well being of women, but for the other sex is not required; nevertheless, there are some men whose bodies are more humid, and of lax fibres, who, by some outlet, have as regular periodical discharges as women.

Boerhaave is of opinion that there is some increased excretion takes place at stated times, in men, and that the plethora they are subject to passes off either by a profuse sweat, or a large flow of urine; which circumstances also take place in women labouring under suppressed catamenia, and which are considered as the means employed by nature to preserve them in health.

A redundancy or immoderate flow of the menses is equally prejudicial to health with all other profuse discharges of blood. In this state the patient becomes faint, and the external parts of the body cold and pale. These symptoms are succeeded by nausea, head-ache, languor, cramps, hysterical affections, and even convulsions, and if not timely assisted, a dropsy, or some fatal malady supervenes; whilst others, attacked with a low kind of fever, pass into a hectic state, which at last terminates in consumption. In some women this disorder occasions sterility, and in others induces a frequent disposition to miscarry.

As women advance in life, and the menses approach their final period, it is well known that they appear at very irregular seasons, and this about the age of from forty to fifty, for which reason it has been properly considered as a very desirable thing to have these latter evacuations of a more extended duration; so that this discharge is only to be reckoned morbid when it exceeds the times above mentioned. Though it is by no means rare for women to have an irregular menstruation, even beyond their seventieth year, still, when protracted much beyond the age of fifty, it lays the foundation of a number of complaints, even in women who antecedently have enjoyed the best health. It is this which constitutes what is emphatically denominated among females, the *turn of life*, or the season in which a total cessation of the menses takes place, and is undoubtedly a very critical and important era in their lives, requiring particular attention to regulate aright; for when they are extended to a late period, there is reason to suspect the existence of some latent disease, such as dropsy, cancer of the womb, with obstinate retention of urine; and when a uterine hemorrhage takes place so late as between the age of fifty and sixty, there are very little hopes of a cure, for this has generally a fatal termination.

A suppression or obstruction of the menses is productive of equal inconvenience with the former complaint, and the most usual effects of this disease are languor, a depraved appetite, sickness, palpitation of the heart, tension of the breasts, dry cough, bluish circles round the eyes, vertigo, pains in the limbs, that painful affection called globus hystericus, and oedematous swellings of the legs. Sometimes these persons fall into a profound melancholy, and in others, during the obstruction, this excretion has been known to make its way through different parts of the body. An hemorrhage from the nose or a discharge of florid blood from the lungs, a vomiting of blood, or

a discharge of it by a diarrhœa or profuse sweat, or even from the internal angles of the eyes, from the ears, nails, gums, salivary ducts, the skin, or the urine, have been known to take place under these circumstances ; and indeed, if these should fail also, and nature cannot relieve herself by one of these outlets, from so dangerous a plenitude, the patient is commonly attacked with some deplorable malady, perhaps madness, or some other more acute, which in the end carries her off. Copious bleedings, repeated purges, warm baths with exercise, are here the principal remedies.

Dr. *Scobinger* relates, that he has seen a girl whose hands regularly swelled at the approach of the menstrual period, till at length nature relieved herself by a copious flux of blood from her finger ends.

Hippocrates observes, also, that obstructed catamenia is the cause of women having beards ; how far such an hypothesis is supportable from fact, is not my province here to determine, nor is it, I believe, of much consequence.

I have already had occasion to remark, that although the cessation of the menstrual flux is a very critical period in the female life, yet it does not always happen at the same precise time. In women of a robust, corpulent habit, it sometimes declines at the age of thirty five ; but in others of a soft, relaxed, delicate frame, it returns to a much later period : but at whatever season of life this event happens, it is always of the first importance to a woman's future welfare, though we not unfrequently observe women pass through this change in the constitution with very little trouble, and attended with no material alteration in their health.

Persons of peculiar delicacy of habit, who have been accus-

tomed to free discharges of the menses, generally find themselves much relieved at this season, but this is far from being the case with all. In many women the natural surplus of blood continues to flow, although the organs designed for its discharge have failed in their office, and though these sometimes may remain unaltered, or at least not wholly obliterated after the usual accumulations have ceased to take place. It is therefore on these circumstances, that at this juncture of time, so much will depend as to the establishment either of firm health, or the laying the irremediable foundation of many obstinate diseases, and will thus elucidate the absolute necessity there is, that a patient should be judiciously managed at such an eventful crisis as that when the cessation of the menses takes place.

The lochial discharge, or what is commonly termed the cleansings after delivery, is an excretion greatly connected with the health and welfare of females, and is therefore of the first importance to be regulated in a proper manner. Subsequent to delivery this evacuation for a few days consists principally of pure blood; after that time, from the contraction of the uterine vessels and the changes wrought upon the system by the increased secretion of milk in the breasts, it gradually diminishes both in quantity and quality, and that which at the first was pure blood only, is now converted into a serous watery discharge, merely tinged with blood, till in about a fortnight or a little more from delivery, if things go on well, it commonly ceases altogether, and the mouth of the womb closes, which is a certain rule for judging that a woman has been properly treated in her labour. This, as before observed, is the usual progress of this excretion; still here, as in most other cases, there are exceptions, for in some women it continues only for the space of eight or ten days, and in some not even so long. Such is peculiarly the case with women who

have been accustomed to have but a spare evacuation of the menstrual flux, or in whom the uterine vessels are but of small diameter; or who, subsequent to the few first days of delivery, have had a copious discharge.

In women who are young and of plethoric habits, a redundancy, or immoderate flow of this discharge, is supposed to be productive of very alarming symptoms, and not unfrequently to terminate fatally. The most frequent source of this malady arises from the officious interference or gross ignorance of individuals or practitioners unskilled in their art: for, in those cases in which we find an excessive flow of blood take place immediately subsequent to delivery, it may pretty commonly be taken for granted, that some unwarrantable violence has been offered in the progress of the labour, and that some sort of injury has been inflicted on the womb. When, however, we are so fortunate as to be able to convince ourselves that nothing of this sort has happened, there is by no means that cause for alarm that there otherwise would be; for a profuse discharge of the lochia differs but little from a redundancy of the menses, and, under proper care and attention, is as readily suppressed, particularly if the patient on her part be tractable, and disposed to conform to rule and regimen.

The reverse of the foregoing complaint not unfrequently happens; for, from sudden exposure to cold, from a portion of the membranes being left in the womb, or from injudicious treatment of the accoucheur, a suppression or retention of the lochial discharge takes place, which at least is a very unfavourable, not to say dangerous occurrence. At all times such causes as are likely to bring on this complaint should be carefully watched and avoided. In women who generally menstruate sparingly, there is not so much attendant danger as in

those of an opposite temperament. A suppression of this evacuation, if not timely relieved, will inevitably involve the patient in the most distressing situation, the puerperal, or child-bed fever, a more dangerous and deadly disease than which cannot exist, is one of the first and most common effects of this calamity. Sometimes this is succeeded by a profound melancholy or hysterical affections; in others, an inflammation of the womb, with furious delirium or a phrenzy follows, which is commonly at last periodical.

A temporary mania frequently occurs after lying in, which, by some authors, has been attributed to that state of general irritability and agitation of mind incident generally to such situations; but, for my own part, I am more inclined to suppose it a branch of the same malady. *Van Swieten* informs us that he has seen that most dreadful of all diseases called tetanus, (which is a violently rigid spasmodic contraction of the whole frame) induced entirely from a suppression of the lochia. There certainly can be no doubt that when the disease is accompanied with strong emotions of mind, the symptoms must be greatly aggravated, and the dangerous consequences very considerably augmented.

A suppression of the milk is a complaint also productive of very serious consequences. The milk fever, as it is called, which commonly follows a few days after labour, is seldom dangerous or of long duration if the woman be properly treated; the most usual cause of its being dangerous, is the neglect or obstinacy in nurses to put the infant to the breast sufficiently early. Some of them can with difficulty be persuaded to comply with it till two or three days have passed on, and in the interval keep the child's stomach crammed with a heterogeneous mass of crude indigestible food, which never fails of griping it, or otherwise disordering it. From such

irrational conduct as this, the mother participates in the sad consequences: her breasts become turgid and inflamed from the accumulation of milk, which, it is more than probable, terminates in mammary abscess, which often degenerates into an indolent schirrous or cancerous sore, and, after harassing the sufferer for a series of years, leaves her hopeless of relief, but by the friendly intervention of death.

One of the most sure and certain means which I can with confidence recommend my readers of avoiding this complicated scene of misery, is, *never* to feed a new-born infant, but apply it to the breast as soon as the mother has sufficiently recruited herself from the effects of her labour, or even should any symptom of hardness or inflammation occur; yet, when this circumstance is duly attended to, it for the most part terminates with a relaxation of the distended parts, accompanied with a gentle perspiration, which obviates all future inconvenience of this sort. Sometimes a repulsion of the milk has brought on an inflammation of the womb, than which a more painful and alarming complaint a woman cannot be afflicted with.

On the other hand, too great a flow of milk is productive of very injurious effects, particularly if the woman be of a delicate temperament. This extraordinary secretion, which is formed from the serous and oily parts of the chyle, is encouraged by giving suck, and if too long persevered in, languor and debility supervene; the patient loses her wonted spirits, her appetite fails, she is affected with spasms, head-ache, nausea, and evident diminution of strength; from which, if not seasonably remedied, she becomes hectic, and ultimately sinks under that uncontrollable disease called consumption.

We are too apt to pride ourselves on our boasted attain-
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ments, and presumptuously pretend, in many instances, that nature stands in need of our amendment; but, as she never changes her established laws, with respect to the structure of the animal machine, we cannot better manifest our wisdom than by steadily attending to and pursuing her dictates. Thus we find women of fashion will frequently spurn at the idea of suckling their children, for fear of discomposing their dress or spoiling their shape, and that milk which was designed by Providence for the nurture of their children, is repelled by medicines; and, as nature is thus arrogantly turned out of her course, the consequence of this is, they expose themselves to an increased flow of the lochia, as well as too copious a discharge of the menses at their stated periods; the effects of which on the constitution I have had occasion already to point out; whereas those who comply with this salutary practice, have not only a moderate flow of the lochia, but all the attendant symptoms of their situation are ameliorated, and, as long as they give suck, are, with few exceptions, during this period not liable to a periodical return of the menses. It is, however, always prudent for a woman, as soon as she suspects being with child during suckling, to wean her infant without delay, otherwise she is extremely liable to miscarry; nor will the child suffer less from the same circumstance, for the changes now affected on the system render the milk very unwholesome, and will generally be found the certain, though, perhaps, unsuspected cause of many of their complaints.

Having thus, in a cursory manner, offered a few remarks on the different excretions, with the various effects produced on the body when in a morbid state, I shall only observe farther, that little difficulty will occur in distinguishing the peculiar character of each of them, however diversified they may appear, provided we are enabled to appretiate the several exciting causes, combine them in a proper manner, and thus

draw our inference from the whole. When one particular excretion has become vitiated, its influence is extended, and will alone frequently produce some morbid change in all the rest; so that, in order to be enabled the better to estimate the effects which seem to be derived from one, it will be most times advantageous to take into the account the peculiar state of several of them before we can properly determine on the means we shall pursue, for the purpose of obtaining the wished-for relief. I may with propriety add, that the same precise effects will not invariably be produced by the same causes, from their being variously modified according to existing circumstances, of which the reader should be necessarily apprised, since, if he possess not that discrimination, he will view things through a false medium, or pass by unsuspecting the most prominent cause of the evil.

With regard to the intelligent practitioner, he will feel fully aware and convinced that, throughout the whole complex fabric of the animal body, there will be frequent and various indispositions induced from sympathy or consent of parts. For example, if the passage of one of the ureters be obstructed by calculi, the other will contract, and be equally distressing with the former, from sympathy; if the head be affected with a violent pain, the stomach will be nauseated from the same cause, and *vice versa*. If one eye be affected by inflammation, the other will suffer, though perhaps not to the same extent, from sympathy; and so may the same effects be traced throughout the whole animal economy. In a disordered state of the excretions, therefore, as before remarked, it is not by minutely attending merely to the one affected that we shall gain the desired information, but by considering and digesting the whole of them in the aggregate, particularly those with which we know *à priori* that a peculiar connection exists.

ESSAY VIII.

OF THE PASSIONS.

I HAVE already remarked, that what are usually denominated the non-naturals, consist of six subjects, viz. air, food, or meat and drink, exercise, or motion and rest, sleep and watching, the excretions and retentions, and the passions; on the last of which it now remains for me to make some brief remarks. The reason why these are thus called, is, because they are neither of, nor against man's nature; without their use human life could not subsist, and it is only in the regular application of them that man can be capacitated for passing through life with comfort and happiness: for, in quantity, quality, manner and time of using them consists the true method, in a great measure at least, of preserving and restoring health.

Without entering metaphysically into a subject which in a general treatise of this kind will not be expected, after the elaborate disquisitions of the most ingenious philosophers; without endeavouring to define what the soul is, whether it be a sentient principle, according to the Archæus of *Van Helmont*, and his enthusiastical disciple *Stahl*, or existing in the more refined and volatile parts of the sensorium, possessing a certain impetus or impulsive power, extended throughout the body; of one thing, every one who has made but the slightest ob-

servation on the subject must feel a thorough conviction, namely, that the soul or mind of man has a most extraordinary effect on the operations of his body; and, that whatever has a tendency to disturb or ruffle the former, will, as a certain effect from a cause, very materially impede and discompose the latter; or, that the connection is so forcible and indissoluble betwixt the two, that the body suffers certain inconveniences wherever the soul or mind is interrupted in its course of tranquillity. It was with an eye to this circumstance that we find *Sterne*, in his *Tristram Shandy*, with some pleasantry, comparing the soul and body to a coat and its lining; "if you rumple the one," says he, "you are sure to discompose and rumple the other."

The effects of the passions on the human frame are either sudden, acting with more or less energy, or progressive; that is, they are either productive of sudden death, or they undermine and destroy the system gradually. All the passions, of whatever species, when carried to excess, induce very formidable diseases, involve us in the most imminent danger, and sometimes occasion death; nor, indeed, does it unfrequently happen that apoplexy succeeds terror; in short, this disease has been considered by the most eminent writers as the most common effects of a violent gust of passion; for by these extraordinary impressions, the heart is so violently agitated, that it can neither admit nor emit any blood, in which case the countenance becomes pale and livid, the lips of a purple colour; there is a cessation of all voluntary motion, and in this state a total insensibility or even instantaneous death frequently follows. But the passions will sometimes produce the most decided injury on the body, even when not carried to this extraordinary degree of excess, such as an oppression on the breathing, or a hesitation in articulation, the tongue being immovably fixed, and incapable of utterance.

Notwithstanding that the force of the passions very materially depends on the peculiarity of temperament and disposition, yet, as a secondary agent, their effects are still regulated by the instinctive operations of the soul, the power and extent of which will always be a guide in determining the degree of attendant danger. In general, men of keen penetration, extensive imagination, and refined sensibility, suffer most from violent emotions of the soul; but such as possess more reason than imagination, feel more considerable effects from the more progressive movements of the mind. A man of a stupid indolent cast is altogether insensible of insults and injuries; but, still he is frequently harassed with a thousand different apprehensions, which a man of a more enlightened mind would treat with contempt, as knowing them to be groundless. Persons of the former class suffer little inconvenience from sudden impulses of passion; but those in whom are united an enlightened reason, with an active and reflecting genius, are much more susceptible of their effects, and are consequently more agitated and disturbed by them.

There are, no doubt, many physical causes which are capable of producing very formidable diseases, which may still be originally traced to the effect of the passions. Hysterical and hypochondriacal diseases may exist from a predisposition to them in the constitution; but we must be also convinced that they are very frequently the absolute effect of inordinate grief in persons who are in other respects the most healthy and vigorous, although we can satisfactorily account for their taking place. In short, from the intimate connection between the soul and body, the one can never be affected in this way, but the other must partake of the evil; for the body follows the affections of the soul, and acts as it feels. It should however be noticed, that different passions produce very different effects, or the same passion may excite very different sensa-

tions either in the same or different individuals, and therefore I hasten to consider the principal effects of the most prominent and sensible passions.

Joy has been designated by the immortal *Cicero* as a *voluptuous transport of the soul*, and very earnestly contends, that a wise man ought to be very circumspect how he freely gives way to an indulgence in it. This passion, though less suspected, is much more inimical to life than its opposite, grief; and, when sudden, is more specially calculated to produce the most alarming consequences. There are innumerable instances to be found where a sudden transport of joy has terminated in a fatal manner.

The famous *Fouquet* died suddenly on being informed that Louis the Fourteenth had restored him to his liberty. A young woman, also, nearly allied to the renowned *Leibnitz*, little supposing that so acute a philosopher would accumulate riches, expired suddenly on opening a box, which he kept under his bed, that contained an innumerable quantity of ducats. *Valerius* relates, likewise, that a valiant son of Mars, who was a stranger to sickness, died suddenly in the arms of an only daughter, whom he had long been separated from, and ardently wished to see; and in the memorable year of the South-sea bubble, it has been proved that more people became mad who had been successful and had acquired fortunes, than those who from the same cause were totally ruined. Laughter also has sometimes occasioned death; thus we find it recorded of *Zeuxis*, who, having portrayed the figure of an old woman, and attentively considering it, found it so singularly grotesque as to expire through immoderate laughter.

The passion of anger is a violent transport of the soul, united with an insatiable propensity of being revenged of the author of

some real or imaginary injury. The general effects of this passion seem to act as a stimulus on every moveable and sensible part of the body, and so far discompose and ruffle the mind as to produce a violent spasmodic stricture of the nervous and muscular parts; the countenance becomes florid; the eyes sparkle, and the pulsations of the heart are carried on with increased rapidity, even to as great a frequency as that of one hundred and forty strokes in a minute. Sometimes, when this destructive passion is carried to violent excess, it produces copious hemorrhages, and sub-cutaneous extravasations, the whole mass of blood seems to return towards its centre, the superficial veins disappear, the face turns pale, the voice falters or altogether fails, a universal tremor takes place, and, under such circumstances, the person at length falls down in a state of perfect insensibility, and, if not timely relieved, soon expires.

An increased secretion of bile is often the consequence of a violent fit of anger; the stomach and bowels suffer much from this cause; in some a vomiting is excited, in others it passes immediately into the intestines, and causes a troublesome diarrhœa; and, not uncommonly does it happen, that, from a stricture of the biliary ducts, this fluid is retained, a jaundice supervenes, or violent fits of gall-stones, a most painful complaint, are the inevitable consequences. During the fit, or its immediate effects, evacuations should be avoided; but, as soon as it has in a measure subsided, in order to carry off that quantity of bile which has been propelled into the bowels, a gentle dose of rhubarb, or some mild aperient may be administered, to diminish its acrimony, and determine it downwards.

The sudden effects produced on the system by terror or fright are very analogous to those of anger, though, for the

most part they are, if possible, more excessive. It occasions such palpitation of the heart, debility and tremor, that the person who is the subject of it, is unable to save himself from any impending danger by flight. Sometimes it seems to impart to a man a preternatural degree of strength, similar to that of maniacs; at others it has been the means not only of exciting dreadful convulsive affections, but they have remained perhaps during their whole life afterwards, returning periodically. *Wepser* has given an instance of a patient who, after excessive fright, first became epileptic, and afterwards died of an apoplexy. A suppression of the menses frequently takes place from a fit of terror; it will sometimes produce such a settled obstruction as to resist the most formidable remedies; and that sudden fear has occasioned syncope and even death, we have many authentic documents to establish: under that impression the countenance becomes pale, the circulation of the blood seems obstructed in some of the most material vessels or auricles of the heart, and in persons who have expired from this melancholy cause, it has been frequently discovered, on dissection, that the heart itself has absolutely burst.

In persons who brood over the apprehension of some approaching evil, there is a debility and relaxation of all the animal powers; hence the pulse becomes diminished, the menses suppressed, respiration is considerably impeded, and sometimes the insensible perspiration being checked, will occasion anxiety and shiverings; in others, on the contrary, it excites an increased perspiration, and the urinary bladder and bowels are so much affected, that an involuntary excretion of their contents will take place.

The effects of fear in the propagation of disease are too well known to be for a moment doubted. If a person be any time strongly prepossessed with an opinion that a fatal termination

will happen in consequence of any disease with which he is affected, this will operate so forcibly on the mind, that no reason or argument can counteract it; and I have really myself seen instances where people have absolutely fallen victims to the force of imagination. *Riverius* with great propriety attributes the propagation of the plague at Leipsic entirely to the effects of fear, which in all epidemical diseases is extremely prejudicial, and no doubt constantly increases the ravages of an infectious complaint. *Willis* has with equal justice observed, that they who most dread the small-pox, are not only the first to be attacked by it, but also have the disorder more severe than common; for fear always aggravates the danger and fatality of diseases, retards the progress towards a cure, and promotes the occurrence of such symptoms as otherwise might never have appeared; add to which, it so operates on the powers of nature, as to weaken every function, and the disease steadfastly opposes every remedy.

Nothing, in my opinion, can be more reprehensible than the too common practice in nurses and servants, of alarming the tender minds of children with the idle tales of hobgoblins, haunted houses, &c. the effects of which are to impress them with that timidity, which is afterwards removed with the greatest difficulty, even when advanced in life, and with minds naturally superior to such little things. Sporting with the passions is always a dangerous project, for by such imprudence the mind may be so deranged as to be incapable of ever acting again with regularity and composure. Children also should never be permitted to frighten one another; many have been involved in the most awful situations from this apparently trivial cause, and have fallen into a state of idiotism, or absolute lunacy. Many, from the sudden impulse of terror, have, from such wanton frolics, lost their lives; whilst others again have had their intellects so much impaired, as to be rendered

miserable, and altogether disqualified for the occupations of life ever after.

Modesty may be considered as a branch of the same passion as the last treated of, but in itself as much more moderate, and farther removed from its direful effects. In blushing, there seems to be, from a peculiar affection of the nervous system, an increased determination of blood to the minute capillary vessels of the face, or indeed, as some have supposed, of the whole surface of the skin. In persons of delicate susceptibility, this passion is sometimes productive of great inconvenience, and at others, of effects extremely alarming. The menses are frequently checked, from this cause, in women of exquisite delicacy, which have not unfrequently proved fatal.

The influence of sorrow or grief on the body is commonly more destructive than most of the other passions, though its effects will be various in proportion to its violence and length of duration. There are, however, not so many examples of its fatality as from joy, because, though it operates so powerfully as to impair the energies of the nervous system, yet the force of the heart and circulation are rather slackened than accelerated by it, as is manifest by the frequent sighing and deep respirations which attend it, which appear to be necessary exertions, in order to propel the passage of the blood through the lungs. There are, however, some instances where it has ended fatally, and that in a sudden manner; and its extraordinary effects in changing the hair are well known to most people.

Although grief, when excessive, will produce such deleterious effects on the system, yet, that which is more progressive and irritating to a feeling mind, is no less detrimental to

our health. Sorrow that is slow and silent, we see, from daily observation, will undermine the strongest constitution, and, like the canker-worm, corrode and destroy every thing with which it comes in contact. The symptoms which usually accompany it are, the nervous energy and digestion become impaired, there is a loss both of the appetite and sleep, with a slow, weak, unequal pulse, and a general languor in the circulation and muscular contraction of the heart, which, in the minute vessels of the skin, is peculiarly weak, and, in such persons, accounts in some measure for that paleness and sallowness of countenance with which we see them affected. In short, it may be said, that in this melancholy state there is a perversion and dereliction of all the animal powers, the soul and body preying reciprocally on each other ; for as the whole system assumes a state of extreme irritability, the mind participates in the evil, and therefore persons under such circumstances become exceedingly captious, morose in temper, and easily agitated by trifling occurrences.

One of the most common effects of this passion, is, that of affecting the tone of the stomach, and consequently inducing flatulence and indigestion. From this cause, as well as a failure of the appetite, the system in general soon appears to suffer, for in addition to these symptoms, colic, spasmodic affections, piles in men, and suppressed menses, or fluor albus in women, usually supervene. Sometimes there is an obstinate costiveness, at others a constant diarrhœa, which are equally fatal to the well being of the constitution. The bile also can with difficulty be propelled, but, as it were, becomes stagnant in the liver and gall-bladder, and either there forms biliary concretions, or, being absorbed, is again returned into the general mass, and induces jaundice, diseases of the viscera, dropsy, &c. so that in some way or other the body gradually sinks under an incurable atrophical state.

From this very short outline of the sad effects of the passion of grief, we may see what must be the ruinous consequences to those who cherish and give way to it. Such therefore as are desirous of avoiding this complicated misery, should keep their attention engaged by a diversified scene of objects, with a steady resolution of exerting every effort to resist its approach. It is the inevitable lot of man, in his passage through this chequered scene of life, to be visited with disappointments, vexations, and unhappiness, from a variety of causes; but it is highly indecorous on that account, nay, I may add, criminally impious, to sit down and indulge in an excessive grief and despondency, by brooding over unavoidable misfortunes. When reason fails, we should invoke the hallowed aid of religion to reconcile us to our fate, and, by making a comparative estimate of our situation with that of others below us, we shall, instead of murmuring at the dispensations of Providence, have abundant reason to be thankful it is no worse, and be content in that station which has been assigned to us in the scale of human life.

Indignation seems to be a mixed passion, the offspring of anger and sorrow. It sometimes exposes the subject of it to very destructive effects, and, when extreme, will excite nausea, giddiness, and, from a violent stricture of the breast, a difficult respiration; even when it is not so vehement, it is frequently succeeded by a most distressing pain in the side, particularly in females of delicate habits, which at every respiration is renewed, and protracted to a great length of time. To attempt the suppression of violent indignation too suddenly is always a dangerous expedient, and we are not without instances of the most serious consequences taking place from it: some, during the paroxysm, have been struck with incurable dumbness, others have died suddenly, apoplectic, and others also have become maniacal and remained

so through life. We sometimes find it difficult to divest ourselves of indignation, when, with truth and justice on our side, we find ourselves exposed to "the oppressor's wrong, or the proud man's contumely;" this, nevertheless, should be our anxious care to avert by coolness, and, if possible, to resist by intrepidity. In common life we too frequently meet with causes sufficient to call forth this passion in our breast, but we should be on our guard in some measure, as well as be prepared against feeling agitated and distressed when they unavoidably occur.

Amongst the catalogue of melancholy passions, we may with strict propriety include the passion of *love*, which perhaps, is the most impetuous, because it is the most impatient and less susceptible of the control of either the will or the understanding. Sometimes its progress is gradual, but not less pernicious, producing on the constitution effects analogous with those of intense grief, and which, if not counteracted, will ultimately be destructive. The symptoms which accompany this tender passion are a weak tremulous pulse, deep sighs, dejection of spirits, alternate glow and paleness of the cheeks, impaired appetite, inarticulate speech, cold sweats, and constant watchfulness, which terminate either in a consumption or a fixed insanity.

There are also other symptoms which attend a disappointment in love; in women it has been commonly succeeded by an obstinate suppression of the menses, along with which, in such cases, there is frequently united a mixture of timidity and sorrow. The *furor uterinus* is, in females, another common effect of this passion, which, as in such circumstances it is a disorder most intimately connected with the mind, seems to admit of no other rational mode of cure than the attainment of the desired object. It has been remarked that women appa-

rently far gone in a consumption, and seemingly exhausted by the corroding violence of the passion, have, from the mere presence of the beloved object, soon brightened up, and not unfrequently been restored to their health, a most striking instance what a powerful influence the mind possesses over the body.

I cannot close this part of the subject without deprecating the conduct of those monsters in the shape of men, who, destitute of humanity, use every endeavour to gain the affections, by imposing on the credulity of the weaker sex, and having obtained that end, wantonly boast of their valiant exploit, abandon them, and leave the unhappy victims a prey to bitter anguish and despair. No punishment hardly can be commensurate with the magnitude of such a crime; and although in the *new school* of morals it may be refined to the high sounding title of gallantry, for my part, I should have no hesitation in calling it *deliberate murder*, and that of the most base and flagrant kind, however I may be ridiculed for the *grossness* of my sentiments.

Envy is that sort of passion which more or less manifests its baneful effects on us at a very early period in life, for it is observed, that even children will soon put on a sickly appearance, lose their flesh, with other unequivocal marks of indisposition, at seeing other children more indulged or caressed than themselves. As envy appears to assume its seat in the human breast, we begin at first to lose our appetite, as well as sleep, and from this is excited a disposition to fever. A person who is the willing votary of this abominable passion, observes, with a malignant eye, the successful enterprizes of his neighbour, and even of his friend, and should he find others lavish of praise, or liberal in rewarding him, he vainly imagines that his merits are overlooked and superseded, and that

he himself has much stronger claims to notice and esteem ; under such disappointment, he assumes an air of melancholy, becomes grave and sad, and will sometimes be stimulated to seek, in a clandestine manner, the overthrow of his odious rival.

The man who can thus be betrayed into this servile and detested passion, is perpetually nourishing in his breast a certain source of pain and distress. When he hears encomiums passed on the name and character of another, his heart swells and burns with jealousy and rage ; this he endeavours to frustrate, by holding up his rival to calumny and contempt, but in endeavouring to depreciate him, he is incessantly retorting the injury on his own head ; for when he hears of the good fortune and success of others, which he generally magnifies in his own mind, his breast is agitated with sensations which prudence obliges him to conceal, while his confusion and dismay are strikingly apparent in his visage.

It would be a task of no small difficulty, were it necessary or conformable to my present plan, to trace this contemptible and destructive passion through all its bearings and circuitous windings, or the effects of that ambition which is its usual concomitant. Suffice it, however, for me here to remark, that I have not the smallest doubt, but that this is the unsuspected cause of several painful diseases, and that many persons, under the influence of this criminal passion, have in consequence ultimately fallen victims to it, or if happily discovered, it is to be attributed only to some fortunate event of chance.

A man with his mind alienated from every object but his darling vice, which he studiously cherishes, and never reflecting on the dreadful effects which must follow, would feel repugnant and ashamed to acknowledge his depravity, were the

cause discovered and pointed out to him. For reasons such as these, it behoves medical practitioners to increase in vigilance and attention to the effects of this vice, which are but too strikingly apparent to most of them, in their converse and intercourse with mankind at large. The silent sadness, the desponding sigh of many, whom they are called on professionally to attend, with that agitation and anxiety which never fail to protract the progress of disease, very often owe their origin to no other source than that of some secret envy, which at first rankles in silence within the breast, or preys upon the heart, but at length bursts forth with violent impetuosity, by which the operations of both body and mind are disturbed and distracted.

ESSAY IX.

OF VENEREAL EXCESSES, AND ABUSE OF THE ORGANS OF GENERATION.

HAVING now concluded my observations on the six non-naturals, as well as some other subjects, which, though not included in them, I consider of great importance, and indeed materially connected therewith, so far as they tend to preserve our bodies in a state of health, I proceed to discuss the last, and perhaps not least important subject, originally proposed, viz. the abuse of the organs of generation, either as referring to an excess of venery, or the most insidious and destructive practice of a certain secret and solitary vice.

If a particularity of arrangement was of any advantage in a work primarily designed to convey some general information on a series of subjects, in which every class of society is peculiarly interested, the one now under consideration should properly have been treated of, under the head "of the Excretions and Retentions ;" but as I account this of too much consequence to be slightly hinted at, and being at the same time a topic which, for several reasons, has been excluded from most works of this kind, I trust I shall not be deemed unnecessarily prolix in making it the substance of a distinct essay, which, after begging to be excused for this digression, I hasten, according to my ability, to endeavour to explain.

It may be considered by some persons as a fruitless task, if not a species of presumption, to attempt the investigation of a subject which has already engaged the pen, and been so fully explored by men of the brightest genius and most enlightened understandings;* yet, as I consider it to be intimately connected with and arising out of the general subject of attaining or preserving health, and one on which the welfare of society very materially depends, I have been induced to make a few brief observations on it.

It will not be thought, perhaps, altogether irrelevant to the purpose, to premise a few remarks on the nature of the genital organs, that, by being in some measure made acquainted with their phenomena, what may be advanced in progression may appear in a more forcible and clear point of view, as well as tend to substantiate its truth and validity. The seminal fluid of men, when in a healthy state, and capable of propagating the species, is a substance consisting of various compo-

* See Tissot, Zimmerman, and others on this subject.

ment parts, and has been supposed by able physiologists to contain the very essential or most subtilized parts of the blood, so much so that a few drops of it only, tend more to debilitate and enervate the constitution, than the discharge of a large quantity of pure blood, and consequently that nothing is more calculated to injure the springs of life, and induce debility with its train of consequences, than an excessive indulgence in venereal enjoyments.

Like other animal mucilages, it is indissoluble in water, but the thicker part, which, in all probability, is the pure semen, sinks to the bottom, whilst the remaining part draws itself into fine filaments, and forms a delicate pellicle on the surface of the water. In a healthy state, it is usually of a grayish or ash-coloured appearance, inclining to a white; inodorous, viscid, glutinous, and of considerable specific gravity; but in persons of debilitated constitutions, or in those not arrived to years of maturity, it is of a thin watery consistence, and not adapted to procreation. In examining this fluid by the assistance of microscopic glasses, having previously diluted a small quantity of it with warm water, it appears replete with innumerable small living animalculæ of an oblong spherical figure, sharp at one end, not very dissimilar to eels; and this circumstance is equally observable in quadrupeds, birds, fishes, &c. as in man.

There are none of the animal fluids so slowly secreted, or meet with so many retardations in its progress, unless some violence be offered to nature; from which the body is exposed to exhaustion; for all the other fluids pass immediately to those parts through which they are destined to be evacuated; but as the semen takes a circuitous rout through the seminal tubes, and these parts pervaded throughout by small arterics and veins, it must be obvious that the secretion and excretion

of it is a process slowly performed, as well as in very small quantities ; it being the intention of nature that a considerable portion of time should be employed in preparing and perfectionating a fluid indispensably necessary for the propagation of the species.

In a state of childhood or prior to that of puberty, we find very little difference in the sexes in many respects, such as in the voice or action, though boys are in possession of all the parts necessary to their species ; but about the age of fifteen or sixteen very striking and peculiar changes take place. In the male, that which is most apparent, is the alteration of the voice, and growth of the beard, with some others indicating the approximation to virility, which continue and remain even to a very protracted old age. It is very remarkable that although the growth of the beard, according to the constant and fixed law of nature, is the first mark of puberty, and that at the same time the semen commences its formation, yet if the parts of generation be injured or destroyed by accident or otherwise, there will be an immediate suspension of these changes, and the person again relapse to a state of effeminacy. It signifies nothing at what period of life this happens, whether after the time of puberty, in the vigour of manhood, or in old age, the effects will be precisely the same ; the face will be beardless, the voice will be puerile, and the whole machine, as to its virility, completely destroyed ; hence in old men, who merely from age become impotent, the beard falls off, the head becomes bald, with other marks tending to elucidate this fact.*

* Boerhaave observes, that, " if any one should entertain doubts on this subject, or that such consequences do really follow, I shall endeavour to make an answer by experience or facts.—"There was an intrepid soldier, who, aspiring after the reward proposed by the general

Man, then, was intended by his Maker for the purposes of procreation, and the effusions of the seminal fluid is as conformable to health and nature, and as necessary as any of the other excretions; but when this is carried to excess by lawless irritation, and a heated imagination, the body soon manifests the injury it has sustained by such violence.

As I have before observed, it is universally supposed by anatomists, that the human body is more weakened, and the system more injured from the loss of one ounce of the seminal fluid than it would be from the loss of forty ounces of blood. The consummation of the act of coition is a species of convulsive or epileptic motion, which at the moment agitates strongly the whole frame; but the languor and relaxation which succeed the venereal pleasure is equally proportioned to the violence of the preceding spasm, proving that assertion of the poet when he observes, "*omne animal post coitum triste est.*"

The strength and vivacity of the body, together with that manly vigour essentially necessary for our well-being, will greatly

to him who should first fix the standard in the enemy's fort, climbed through a thick battery of the enemy; but unfortunately the fire of the cannon deprived him of both his testicles, yet he recovered, but became at length effeminate, not in mind, but in body. The strength of the several muscles of the genital parts still continued, and nothing was wanting towards his virility but the testes, yet his voice soon altered, and his beard fell off; from hence I learned that the changes which thus happen in those who are about the age of puberty do not proceed from entering the age of fourteen years, nor from any change in the fabric of the body, but only because the semen then begins to be formed; since if the testes are absent, the age makes no alteration, but effeminacy will continue even in the age of manhood, if by any accident they are destroyed after puberty."—Boerhaave's Lectures.

depend on the proper regulation of our conduct in this particular. The muscular strength of the animal machine also, as well as the powers of the mind, will be diminished or increased by it; so that we shall either be rendered bold, animated, and fitted for arduous undertakings in life, or dwindle into decrepitude or premature old age, in proportion as our attention is directed to this circumstance.

An inordinate excess in venereal enjoyments exhausts all the animal powers, and destroys the energy of the nervous influence, and thus, as it were, saps the very foundation and principle of human life; whilst all the sensitive faculties in their turn partake of the same irreparable injury; in short, it destroys the relish for whatever is desirable in life, blunts the ardour for every thing worthy the exertions of a rational being, and ultimately consigns the voluptuary in the prime of his life, or even before he has attained a state of manhood, to all the horrors and infirmities of a premature senile age.

To enumerate the train of wretched sufferings into which such persons involve themselves, even before they are aware of their danger, would be to exceed the bounds of an essay of this kind; but hypochondriasis with its concomitants are frequently the result of such indiscretions, which perhaps ultimately terminate in a fixed and profound melancholy, from the horrors of which, the unhappy victim often endeavours to emerge, by a repetition of these convulsive exertions of his vital spirits, till at last there is a total failure of them, and thus he sinks deeper into the gulph of wretchedness and misery.

Repeated nocturnal emissions, or the too frequent indulgence in the solitary vice of onanism, are equally injurious to the human frame, and soon hurry the imprudent sufferer to the grave. The latter, which is commonly practised in secret,

and which grows upon its repetition, weakens and enervates both body and mind, more than any species of debauchery whatever ; nay, the ravages of the venereal disease on the constitution are, by no means, to be put in competition, as to its melancholy effects, with this baneful and insidious habit ; for by this unnatural propensity, a far greater quantity of semen is evacuated than by the natural commerce between the sexes, the vital spirits suffer greater violence, and are interrupted in that uniform operation which counterbalances the convulsive effects which agitate the whole frame.

Another very distressing circumstance attending the prosecution of this destructive habit, is, that it rarely admits of a remedy till the constitution is so far broken as to be nearly, if not quite irreparable ; for the commencement of this hateful vice frequently takes place at a very tender age, long before the reasoning faculties are so far expanded as to be enabled to view it in its proper colours, and more opportunities occurring for its indulgence than in that of sexual intercourse, the practice at length becomes so habitual, that it is scarcely possible to retire to sleep without having first felt the effects of this exhausted state of body. The sensual appetite or imagination, which, by a natural union of the sexes, in a certain degree feels satisfied, is far from being the case with those who give themselves up as the willing slaves of this sinful vice ; and with every repetition of the crime, a stronger incentive is felt for a perseverance in the practice, till at last the functions of life begin to be impaired, and diseases of various shades and complexions begin to be manifest, from this most cogent though unsuspected cause, such as failure of strength, loss of flesh, with a gradual defection in all the viscera ; hence are induced indigestion, general debility, impaired vision, head-aches, tremors, palpitation of the heart, epileptic affections, and at last, though not less frequent, a consumption of the lungs.

Superadded to this, the whole system seems to feel a suspension of its functions, whilst the soul also suffers a deprivation of all her faculties ; so that to this species of licentiousness may be attributed the reason, in some measure, why we meet with so many persons with emaciated constitutions, and impaired intellect, which in former times have been blasted by the lawless gratification of venereal pleasures.

This species of abuse has also been considered as one of the principal causes of hypochondriacal affections, the long list of sufferings incidental to which are too well and too generally known in this country to need enumeration. These distressing sensations may certainly be induced from a variety of other causes, which, even under the most favourable circumstances are removed or palliated with peculiar difficulty ; but this, as well as the danger, must ever be considerably aggravated, in proportion as this kind of indiscretion has been the primary exciting cause. In this unhappy situation, when these emissions are the effects of a succession of voluntary excitements in both sexes, though no particular inconvenience is very early perceived, yet if the practice has been commenced at a tender age, the sad effects are severely felt when arrived at one more advanced, if haply that ever takes place. Along with the determinate and diversified symptoms which accompany hypochondriasis, there are frequent pains at the stomach, vomiting, uneasiness about the chest, laborious respiration, with acute pains in the loins, thighs, and legs ; the eyes are sunk and shrink from the light ; there is a sickly cadaverous hue in the whole countenance, the ears of a dull white, and the lips equally pale with the face, and these commonly are attended with an insatiable thirst. The effects of this vice have been briefly sketched by *Aretæus* when he says, “ Too frequent a waste of the seminal fluid, whether voluntary or involuntary, brings on the infirmities of age very prematurely ; it renders

men inactive, languid, sickly, effeminate, and impotent, and totally disqualifies them for any of the necessary occupations of life."

It is astonishing to observe how many young men, who, before marriage, were remarkable for gayety and sprightliness, high health, and strength, have, a few months afterwards, from unrestrained gratifications, become cachectic, melancholy, and completely hypochondriacal ; and by marrying when the powers have suffered from the injuries of time, many a one has plunged himself into the very abyss of misery and wretchedness. The senses and the mind seem to act with alternate depravity on each other, which is the case when we indulge desires proceeding altogether from the imagination, or from incontinency that is habitual, even after the cravings of nature have ceased to be importunate. From this species of debauchery, in short, from whatever stimulus excited, the bodily functions become imperceptibly destroyed, and the energetic powers of the soul completely extinguished. Some of the infatuated slaves to this evil propensity have lost their sight by a cataract ; others have died, from the rupture of some internal blood-vessel ; whilst others, after passing several months in complicated pain and distress, have ultimately been cut off by that species of consumption commonly denominated *tuberculosis dorsalis*.

With respect to the vice of onanism, it may perhaps be inquired what inducement, or what stimulus can there be so powerful, as to foster and cherish this unnatural custom ; but an answer to such queries I consider by no means difficultly obtained. Every one is acquainted with the powers capable of irritating certain organs after the association has been formed, which is very soon and easily effected, by the successful application of certain ideas (particularly in females); and in

order to furnish materials for the purpose of adding to this stimulus, nothing appears more efficient for this end, with the misery resulting therefrom, than the libidinous tales, which in the present day are secretly sent forth in such numbers from the press, corrupting the minds of youth of both sexes with impunity. When the imagination is heated, the passions fired, and curiosity on the wing to indulge the fancy, what can appear more likely to fan these sensations into a flame, than the books which compose the generality of petty circulating libraries, to which girls in particular resort with determined avidity? The melting love-sick stories contained in these works, and the voluptuous reveries which follow their perusal, may without exaggeration, or the violation of justice, be considered as the most fertile origin of that series of ill health, that emaciated and atrophical appearance we now see so commonly prevailing amongst the youth of both sexes.

It is not, however (as I have had occasion already to observe), to be understood that this vice is peculiar to the stronger sex alone; girls are equal sufferers from its ruinous effects. Subjects or objects connected with this passion are presented to the imagination through different mediums, as novels, romances, &c. and in schools, by an indiscriminate mixture of girls of various dispositions, some of whom, perhaps, have been contaminated by evil examples at home; it is scarcely possible, I must insist, but that there must be individuals among them to whom the mysteries of this passion have been revealed; or if indeed but a solitary one, thus prematurely and viciously informed, has been admitted, that, like the baneful effects of pestilential contagion, is quite sufficient to infect the remainder, and by slow though certain steps becomes the absolute instrument of introducing disease and wretchedness in all their horrible and ghastly forms; the latent spark which before was torpid, and if left unaroused,

might, in some measure, have remained passive, now, from impressions of sensuality on the imagination, and the libidinous ideas obtruded on the senses, bursts forth into an unconquerable and irresistible flame; initiation into the practice follows in hasty succession among the far greater number of scholars, and at a much earlier age than would be generally credited, till its objects begin to manifest it, by the alteration in their appearance; the cheeks and lips, which once glowed with the roseate tints of health, are now exchanged for a wan, livid, dejected countenance; and the spirits, which before seemed overflowing, and even disproportioned to the bodily strength, are now entirely dissipated; and thus the malady increases till the grave opens to receive the emaciated frame.

Innumerable instances have occurred where the faculty have been called on to attend females labouring under this kind of indisposition. Sometimes worms have been the supposed occasion of the disorder, at others a defect in the menstrual discharge is suspected; in short, various are the causes to which physicians have resorted, without even a suspicion of the real one, or that “the leprosy lies deep within;” and accordingly, under the above impression, the unhappy patient is drenched with cathartics, emetics, boluses, pills, and potions without number, and of course with no other effect than that of rendering the situation more deplorable.

From an examination of the laws of the animal economy, it is certain that nature is unable to support two or three considerable evacuations at one and the same time; that, in order to bring the menstrual flux into a regular and proper channel, there must be a sufficient portion of strength in the *vis vitæ* to effect it; and therefore, as the defect arises more from the effects than the causes of disease, we can never be

successful in our endeavours to restore it, without due attention to this circumstance; and finally, that whatever hopes we may entertain respecting the cure of the complaint, it is impossible any means can be employed with success, so long as there is a determined and increasing perseverance in this destructive pursuit.

The late Dr. *Zimmerman*, a man well known in the literary world as well as in the science of medicine, who possessed a strong mind, well versed with human nature, and not easily alarmed at shadows, in writing on this subject, has observed, that "a particular vice is more dangerous in the other sex than it is in ours, though it is less known, as being carried on more in solitary chambers, and the darkness of night. There is no complaint by which beauty is so soon blasted, nothing so soon robs youth of its freshness, and all enjoyments of their relish: hence, in young women, so often sickliness without any disease; hence that debility which before and after marriage is the cause of so many nervous ailments.* Girls, during a period of child-

* Who can take up a newspaper, and read over without pain the numerous advertisements of bold unprincipled quacks, who undisguisedly hold out the alluring bait to sufferers of this kind of curing them of the maladies they labour under, induced by a certain ruinous habit, by a method infallible, and peculiar only to themselves? Surely it would be humane in the legislature were it, in its wisdom, to devise some means of preventing this daring species of robbery. The starving wretch who steals a loaf from his neighbour to satisfy the cravings of a half famished family, is transported from his country for perhaps the residue of his life; but these monsters are permitted to prey upon the unwary and distressed with impunity, rioting in luxury at the expence of public credulity. Thousands are there even in this metropolis who, labouring under this complicated species of disease, will suffer themselves to be plundered of even their last shilling, in the delusive prospect of obtaining relief. Hypochondriasis, with its horrible concomitants, harass the unhappy devotee in ten thousand dif-

hood, even before any propensity to voluptuousness is suspected, fall into a pernicious clandestine practice much sooner in life than it is commonly supposed. Voluptuous ideas will arise from any accidental irritation, however simple and destitute of images they may appear at this period. In a temperament of great sensibility, these ideas get possession of the imagination, and as soon as the pleasure is sought, without any bodily irritation—I should call it by the offensive name. The frequent rubbing of particular parts, to allay itching occasioned by worms or any other cause, is not the vice itself, but leads directly to it."

Some persons, perhaps, may be ready to inquire, have you

ferent forms, and such kinds of complaints as he is really a stranger to, he fancies he feels in a most poignant degree, through the perverted influence of his imagination. Hence, in the vague prospect of amendment, he flies from one medical practitioner to another, without obtaining any benefit; he, however, takes up a newspaper; there he finds such information as seems exactly suited to his case. It matters not whether it be impotency in the one sex, or sterility in the other; whether there be any organic disease, or whether the system be generally depraved, by every species of debauchery and intemperance, Messrs. and Co. have a specific, a universal panacea for all disorders, for *their* attention and study have for many years been confined to these branches of the healing art, and of course *they* can effect wonders, and to substantiate which, they append the signatures of persons who have never been in existence. On the perusal of such plausible pretences, the sufferer eagerly avails himself of their superior sagacity; his pockets are continually drained by their insatiable avarice, and discovering too late the fraud and imposture, he relinquishes them in disgust, and yields himself up to the lingering torments of disappointment and despair. Certainly there is a power placed in some hands to correct these villanous depredations, and if so, nothing can have a more philanthropic tendency than to suppress the increasing hordes of this class of robbers, and protect the ignorant and unsuspecting from the envenomed grasp of such mercenary and execrable miscreants.

not painted this picture of human wretchedness in colours too glowing? have you not taken up the subject too hypothetically? By no means; the outline is correct, the colouring chaste; they are facts which "he who runs may read," and happy shall I feel in the conviction of being in the smallest degree instrumental in warning others how they plunge themselves into such situations. Nothing but the magnitude of the evil could have prompted me to touch so delicate a string, for it is by no means an agreeable theme for an author to explore; but as I consider it one in which too many are deeply interested, I should have felt myself liable to the imputation of a *false delicacy* in passing it by in silence, considering it of much less importance to run the hazard of being accounted over squeamish, than to mention the danger of inexperienced children absolutely debauching themselves to death. True delicacy consists in a due observance of a proper decorum, and painful must that man ever feel who is called upon to violate it in the smallest degree, by the imperious necessity of attempting to avert a torrent of evil, both in a physical as well as in a moral point of view.

There is a common sentiment, particularly among females, that a reformed rake makes the best husband; but there is abundant cause to suspect that many ladies who have been induced to make the experiment, have been furnished with ample cause for changing their opinion. When, indeed, the pursuit of gross sensualities of this sort are seriously abandoned, when the bodily organs have not been exhausted, the appetites blunted, the ardour of the imagination paralysed, and the nerves deprived of their exquisite faculty of refined sensibility; and if, ultimately, the person be favoured with a healthy offspring (which by-the-by does not often happen), then it is an axiom which, in such a state, may be said to apply; but in the aggregate of these cases, the very reverse

most commonly takes place; for it rarely happens but that a long continued abuse of the genital faculties is followed by disrelish, dejection, impotence, and depravity of the digestive organs: hence, from causes such as these, with many others, it follows that the temper becomes peevish and morose; what are commonly denominated the enjoyments of life have all lost their attractive influence, and the partner of his bed, his most constant and familiar friend, is too often rendered miserable by the impetuosity and irritable state of mind into which his calamities have plunged him.

The sacred bonds of matrimony, in this fashionable age of levity and incontinence, are by no means to be considered as a sufficient barrier, to stop the flood-gates of such disgraceful excesses; for frequently and in various shapes has it been my lot to witness the dreadful effects of the incontinence of husbands. Many an innocent and chaste wife has been a martyr to such cruel conduct; and many a man, under such circumstances, has become the father of an enfeebled and puny offspring. In hot countries women begin to experience a declension in their constitutions at a very early period; and this without exception has, by most people, been erroneously attributed entirely to the relaxing influence of the climate. The fact, however, is in some respects otherwise; for although the inhabitants who live under the tropic, have a great predisposition to a premature declension, yet this is very greatly exaggerated by the excess of venery which there commonly prevails; for we find in the same climate, that the Brachmans, who lead regular and abstemious lives, and are devoted to celibacy, generally attain a very protracted age. The heat, it is true, may operate as a stimulus on the desires, but the mischief arises from their inordinate indulgence, the first effect of which is to excite involuntary emissions, which always debilitate the system exceedingly; these may indeed be pro-

duced by a train of ideas floating in the imagination, but the effects now alluded to will occur without the smallest stimulus, even in the midst of those occupations which are directly opposed to any thing voluptuous, and which afford a very presumptive proof that the tone of the spermatic vessels is very much impaired and debilitated.

Women in general are supposed to be much less incommoded with incontinence than men; but how this is fairly proved, I presume not here to investigate; but there are, no doubt, many who voluntarily fall into abuses of this kind, which too frequently prove fatal. Those who are at all acquainted with the libertinism which prevails in the more exalted walks of life cannot be surprised at the aggravated and complicated series of complaints with which they are affected, and which, in some measure, accounts for that fatality which usually attends the disorders of people of fashion. A frequency of abortion seems one of the most common effects of this misconduct; and without a peculiar attention to this article, as *Werthoff* observes, all our endeavours to prevent it will be ineffectual.

Seeing then that such deplorable effects are the sure and certain consequences of these destructive and disgraceful practices, it only remains for me to add a few remarks farther, as to the means of attempting the application of a remedy for the prevention of such gross and scandalous habits. That, however, must, *à priori*, appear to be a most gigantic task, knowing, as *Zimmerman* expresses it, that "it is carried on more in solitary chambers and the dark recesses of the night," and consequently the much more difficult of detection. I shall, however, proceed to communicate what appears to me to be in some measure calculated to oppose this deluge of evil.

First, with respect to children, were it practicable to keep them in a continual state of ignorance of this passion, the end in that point of view would perhaps be completely answered ; but all-powerful nature here, as in other respects, is irresistible, and bears away before her all barriers or impediments which are opposed to her progress, and, in spite of concealment or reproof, from the association of ideas and circumstances, the passion is matured, and attempts to restrain it are superseded with violent impetuosity. If the human mind be originally that *carte blanche*, as designated by the ingenious theory of the immortal *Locke*, if we feel assured of its ready susceptibility of objects impressed on it at a very early period of life, before it has been sufficiently expanded as to be encumbered with gross and pernicious ideas, I would then suggest the propriety of setting aside the present system of concealment, and by means adapted to their respective ages, make children acquainted with the laws and principal phenomena of the animal economy, point their attention to what is most likely to deprave and vitiate it, and thus gradually familiarize them with such subjects, which we find young people always very inquisitive to comprehend. At the same time, especial care should be taken, (and it requires very considerable address) to prevent the communication of any species of it in the glossy and seducing colours of vicious representation, for the formation of these impressions, whilst the mind is unprepared and unfortified against their delusive attacks, are the fertile conductors to practices of the most insidious and destructive tendency, gradually consuming the very main springs of life, as well as blunting and destroying all the noble energies of the soul.

As then there appear but very few remedies commensurate with this practice, I cannot help fostering a hope that the one I am now suggesting, will not be considered as altogether

chimerical. I would wish again to repeat how extremely erroneous it appears to me, to keep young people in a perfect state of ignorance of what they are most inquisitive to find out; on the contrary, I would seriously recommend to parents, or those to whom the care and education of children are entrusted, to endeavour to cultivate and inform their understandings with observations connected with this subject, as affording the most rational probability of curbing the impulses of appetite, and keeping them within due bounds.

With a view then of seconding such laudable endeavours, and of affording some little assistance to such as are disposed to submit to this doctrine, I would strenuously recommend a selection of books of a proper description, particularly such as contain an anatomical and phisiological account of the natural history of man; these being opened to their view, and the different subjects explained by accommodation to their understandings, will excite in them a desire for study, and viewing the causes by which these operations of nature are interrupted or discomposed, they will assuredly turn from them with increasing disgust and abhorrence: this will unquestionably answer a much better purpose, either with males or females, than a determined perseverance in the present system of constantly keeping them in a state of profound ignorance.

As the minds of children begin to open, and approximate to something like rationality, we may generally discover in them an ardent desire of diving into certain arcana of nature with peculiar anxiety; perhaps the theory of generation and procreation are among the most early which occupy their thoughts. To know in what manner either themselves, their brother or sister were formed, or how they came into the world, are mysteries to which juvenile minds very naturally bend, and if, instead of their interrogatories on these points

being evasively answered, or treated with levity and derision, they were indulged under certain restrictions with a proper explanation of the subject, I feel very little doubt in my own mind, nay, I am well convinced, that it would have a much better effect in preventing the introduction of many evil practices, than by treating their inquiries with ridicule or evasion. When this reprehensible but too common plan is obstinately persevered in, and children find every way for obtaining the desired information shut against them, it then frequently happens that they have recourse to books of an immoral and seducing tendency; these will, if possible, be procured at any rate, and every one well knows that there are not wanting wretches who, to enrich their pockets, are at all times ready to supply them,* as well as with prints of the most obscene and indecent nature; these, originally perhaps sought for, for the purpose of obtaining the desired information, not only fail in this respect, but the effect produced on the mind is only that of a stimulus to the passions already afloat with curiosity and desire, and hence follows that train of vice and wretchedness which I have already attempted to depict.

The above mentioned remarks, it will be clearly observed, can only be supposed to apply to children, or such as are scarcely arrived at the age of puberty; but in pointing out a plan for the conduct of adults, I know no other means which can be devised so effectual in counteracting the tendency to

* I am happy in knowing that some check has within a few years been put to this nefarious traffic, and that several of these miscreants have suffered exemplary punishments, for vending at boarding-schools obscene prints and publications, for which we have been indebted to the laudable exertions of some of the most active and praiseworthy of our countrymen, whose indefatigable vigilance has every claim to the gratitude of the truly amiable and virtuous.

this hateful vice, than that of making a forcible appeal to their reason and good sense, and referring them to the dreadful consequences, so conspicuously manifest in those who have been the willing votaries of it. Hypochondriasis, with its train of miseries, are inevitably his lot who, in spite of conscience or the calls of reason, falls into this dangerous error. To do justice to such a state, no one but an eminent poet, who himself has felt the sensations, can be at all competent adequately to pourtray its poignancy; the description of a medical professor may delineate the outline, to serve the purpose, in some measure, of defining the disease; but as it respects the preservation of health, or the cause of morality, the pen of the former only can be truly successful in finishing the colouring with a masterly touch. Deplorable as the day is to the hypochondriac, yet the night, if possible, is more the object of his dread; here the opportunity of reflecting on what he was, and what he now is reduced to, crowds with redoubled force on his bewildered thoughts, and haunts his perturbed imagination; whilst the horrors of such reflections, during his nocturnal conflicts, are often written in legible characters on his morning countenance. Various are the images which distract his disordered fancy; and refreshment, the ordinary and proper consequence of sleep, he is a stranger to; or, if his eye-lids should be closed with a forced kind of slumber, he will struggle for a time with terrifying dreams, or, under the influence of that horrid sensation called nightmare, he will suddenly start up in affright and terror, only to realize those affections which before were merely ideal.

Should this man be engaged in commercial pursuits, prospects of the most dark and gloomy nature present themselves to his imagination; he will fancy that his ships with their contents must be swallowed up by the devouring waves, and that those with whom he has been concerned in trade are gone to

wreck, and unable to reimburse him for the credit he has afforded them. If peradventure he be of a religious character, still he is haunted by spectres of the most terrific kind, for that religion which to the true christian is the only solace under sufferings, is to him only an additional source of distress; every act of this kind in which he is engaged, he imagines to be obnoxious to his Maker, and only brings new torments in the exercise, and experiences regret in the retrospect. In attending even on holy ordinances all is sinful, and in approaching the table of the holy communion, he cannot be persuaded but he has communicated unworthily; and in all the agonies of despair he will frequently exclaim, "here I lie a monument of the divine vengeance, laid up in store for such wretches as I am." In short, language fails, as before observed, adequately to describe his unhappy situation. He anxiously prays for death to relieve him of his miseries, and, if not restrained by the care and vigilance of his family, will perhaps at length terminate his career by a dreadful and precipitate act of suicide.

Faint, however, as all human language is, in summing up this long chain of wretchedness, yet where description fails, the reader still may be enabled to form some ideas on the subject. I would conclude, once for all, with observing, that such as value their health in a proper manner, or who wish to be candidates for what is amiable, social, and comfortable in life, must shun the vile and detestable practice here particularly alluded to, before it has destroyed his bodily powers, and obliterated every trait of happiness from his mind. Fly from its delusions, reader, as the most insidious and subtle poison, and remember that once fallen into the snare, and long persevered in, you will soon place yourself beyond the reach of human assistance, and life with all its beatitudes will only tend to add to the poignancy and weight of your suffer-

ings. Reflect on it also in a moral and religious point of view; you know the punishment inflicted on *Onan* for this hateful crime by the Almighty, and beware lest you unhappily share his fate. To propagate our species, to increase and multiply, is the specific and positive command of heaven; but this injunction is of no avail to the person who lives in the habitual prosecution of this deadly sin. Every purpose for which the Divine Being thought proper to call you into existence is defeated, and the practice alluded to will not only expose you to every thing miserable in life, but you will inevitably incur the displeasure of him, who is emphatically denominated “the high and lofty one who inhabiteth eternity;” but if the quicksands of intemperance are studiously avoided, if the vice we have been thus feebly investigating, has been described in characters sufficiently legible and odious to your sight, as to induce you to enter on a resolution of carefully shunning its allurements, you will assuredly escape its ruinous effects, and, so far at least as is depending on those circumstances, be eventually blessed with health, peace, and tranquillity of mind.

Having thus traced the principal and most prominent characteristics, by which we may, if so disposed, learn to regulate some of the most important requisites for obtaining what Cicero emphatically styles a sound mind in a vigorous body, I shall conclude with appealing to the candour and enlightened understandings of my readers, whether or not they accord with truth, reason, and the laws of the animal economy, so far, at least, as may be apparent to that degree of observation which they may at any period have made on the subject? Who can possibly take a survey of the astonishing and wonderful economy of the human frame with its various dependencies, and not rapturously exclaim with gratitude and awe, “Lord, what is man that thou art mindful of him?” Every motion,

every atom in the complicated mechanism of our frames collectively conspire to form that miraculous whole called animal life. To say that this is supported, or that animation consists in this or that particular part of it, is as absurd as it is presumptuous; for each part is so intimately connected and interwoven, that, like the fable of the Belly and the Members, one cannot say to the other, "I have no need of you." Life is but another name for self-activity, every part and process of which depends mutually on each other for assistance and support. These are also so arranged and connected together, by the mighty fiat of the great Architect, as to form that astonishing and stupendous whole, called *the human body*, which in itself is so organized and modulated, as to act and be acted upon by some invisible and immaterial agent. Whilst man is therefore thus "fearfully and wonderfully made" as to his body, with powers also superior to all other created existences, he is endued at the same time with that cogitative and elevated principle, called *reason*, to direct him in his choice and capacitate him to appropriate what is good and profitable, and to shun what is hurtful and prejudicial to his welfare. In proportion as he calls this exalted privilege into continual exercise, in the same ratio may he be truly said to soar above the brutes, who have only instinct for their guide. If, from the voluntary perversion of his rational faculties, he sinks to a level with mere animals, and gives free vent to all his ungovernable lusts, some of the dire evils to which I have already adverted must be the unavoidable consequence; but he who lays his importunate and headstrong appetites under a proper restraint and subjugation, will unquestionably be eventually happy; for that man who cherishes an ardent wish for happiness, which is most commonly predominant in every one, must, to obtain it, be first *truly virtuous*.

ESSAY X.

*Of Regimen, &c. as applicable to a diseased State
of the Body.*

REGIMEN AND MANAGEMENT OF WOMEN IN
CHILD-BIRTH.

HUMAN parturition is a process which, from the organic structure and mechanism of the parts concerned in it, even under the most regular and natural circumstances, must, in itself, be unavoidably painful and distressing, and clearly fulfils that passage in holy writ, that in sorrow are we conceived, and in sorrow brought forth. The pain and sufferings necessarily attendant on this state, are, notwithstanding, capable of being softened or aggravated by the mode of conduct observed and adopted in a woman's progress to its termination, insomuch that her present and future welfare will depend materially on these circumstances. The reality of these premises being admitted, it then appears unquestionably a subject of universal interest, that every woman should be possessed of some general principles and notions respecting it; particularly when it is recollected that nature is frequently interrupted and turned out of her regular course (especially among the lower orders of society) by the superstitious, ignorant, not to say mischievous conduct of those persons to whom these matters are usually committed, and who I have most commonly found to be either conceited and per-

verse, or positively act diametrically wrong, as it were by instinct.

In the observations which I shall briefly offer on this subject, I begin first with remarking, that the apartment selected for a lying-in woman should, if possible, be large, roomy, and capable of proper ventilation, which, at proper seasons, will be found indispensably necessary to guard against the probable approach of fever, which in close rooms, even where every thing else has gone on favourably, will sometimes unavoidably happen. One of the most mischievous and idle customs which, on these occasions, is but too common, is that of having a number of women collected together as attendants on a labour; I say *mischievous*, because, on many accounts, it is fraught with circumstances which may prove of the last importance to the woman, and cannot fail to interrupt and disturb the operator in the exercise of his duty.

The first inconvenience attendant on this abominable practice, is, that a room, perhaps not remarkable for being capacious, must of necessity be considerably heated, by being crammed with an unnecessary number of people; the consequence of which is, that the patient, who, from the number of pains she must necessarily sustain before she be delivered, is not only languishing with the heat and fever incident to her situation, but suffers a considerable augmentation of both, from this preposterous custom. For a woman thus circumstanced, it is a matter of absolute necessity, that the apartment should be kept cool: but this every one must be convinced is impossible, when, from curiosity or some other cause equally futile, it is filled with a horde of gossips, which, if it happen to be in summer, is rendered doubly dangerous.

Another positive evil accruing from this practice, is, that

these women will, in opposition to all remonstrance, keep up a continual round of unmeaning chit-chat; they will talk of the dangerous situations in which *they* and their neighbours have been formerly placed, of the difficult labours they have gone through, and the hair-breadth escapes they have encountered, with a number of other stories equally false and ridiculous. From conduct such as this, the patient is exposed to very imminent danger, for not only is she thereby deprived of rest and quiet, so necessary for the support of her strength and spirits, but, after an attentive hearing of all these terrible stories, she naturally will feel inclined to apply some or all of them to *her own* case, and therefore fancies that, because such difficulties *may* have occurred to others, that those of the same sort *must* infallibly happen to her; the consequence is, that her pains may increase and her mind being strongly impressed with the occurrence of some unavoidable danger, all endeavours to dissipate it are fruitless and ineffectual. What the power of imagination is capable of effecting with women in these situations, cannot have escaped the notice of even the most superficial observer. Customs such as these are replete with mischief, and cannot be too strongly reprobated by every friend to humanity.

Among the lower classes of women there is an additional inconvenience to what has been above mentioned, which is, that at these times a woman falling into labour is generally the signal to those alluded to, for drinking, gorgeing, and carousing. The *ladies* of this class in these situations as well as most others, are generally fond of keeping up their spirits by the occasional intervention of a dram, and as they consider it rather unsociable, or cannot do it themselves with so good a grace, *alone*, they frequently express their wishes that the *patient* should have a little also, in order to sanction their beastly propensities; the consequence of which is, that the

poor woman, already sweating, flushed, and extremely heated by her natural exertions, is thrown into a high fever, for which strong liquors are an absolute fuel, and should there not happen to be some individual among them who knows a little better, and has tenderness enough to act in conformity to that knowledge, 'tis odds but the life of the patient is rendered very precarious, or, to say the least, her recovery, which, under different treatment, would have been speedy, is very considerably retarded; for, instead of being tolerably well at a fortnight's end, she may think herself very fortunate if she be able to leave her room at the end of a month or six weeks.

In all cases of this kind, I would earnestly recommend that not more than *one* person beside the nurse should be admitted into a lying-in room; this is all that can be of any *real* utility, and more than this can only tend to expose the woman to one or more of the evils which I have enumerated. Instead of forcing on the patient wine, gin, or brandy and water, let her be refreshed with a cup of tea, a little barley-water, or some gruel, but without spirits or spices, which cannot possibly do her any good, but may eventually do her an essential injury; and if food of any kind be proposed during her labour, as digestion, with the other functions, is then either entirely suspended, or greatly weakened, it is certainly best to oppose it; it only tends to create fever, or remaining undigested, brings on some complaint in the stomach and bowels, which, if irritable, will often entirely reject it.

During the progress of a labour, there can be nothing of greater importance to the safety and welfare of the patient than that of keeping up her spirits, and animating her hopes, by impressing on her mind that all is in a fair way, and that at last she will be safely released from her trouble. Whatever has a tendency to create the least suspicion to the contrary,

though in itself apparently of little moment, demands proper attention, and that is certainly to be preferred which is least calculated to keep her over-heated or encumbered. As soon, therefore, as there are evident signs of labour having actually commenced, the usual clothing should be taken off, and exchanged for that which is cool, light, and least inconvenient. For these beneficial purposes, her chemise had better be tucked up round her waist, and in the room of a shift below a light petticoat will answer much better, or, which perhaps is still preferable, and which many women make use of, is a linen jacket, by which means her linen is preserved unsoiled, while at the same time it keeps her from being annoyed with wet clothes, which, in the course of her labour, would otherwise be the case.

The last thing necessary to be mentioned under this head, though by no means the least worthy of attention, is the method of making and preparing the bed, so that it may be most comfortable to the patient, as well as convenient for the assistance of the accoucheur. The best mode therefore of doing this, is to make the bed completely up, and roll it with the bed-clothes to the head of the bedstead, leaving nothing but the mattress unfolded. The next precaution will be to guard the mattress from being spoiled by the various discharges, which may be thus effected. In the first place it may be covered with a sheet, and upon that with a sheep-skin or piece of oiled cloth, upon this a blanket four times doubled, and lastly, a sheet doubled in the same manner. On this the woman is to be laid till delivered, and after that has taken place and she is capable of being moved (which is about an hour after delivery, which length of time is necessary to guard her against the probability of a flooding), the bed, already made, may be rolled down, and the patient put into it without much trouble or fatigue, whilst, at the same time, she readily gets

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rid of every thing wet or uncomfortable about her, a matter of the greatest moment to her feelings.

In addition to the risk of spoiling a feather bed, that is, in my opinion, the most inconvenient one a woman can be delivered on; but if it should be preferred, as is sometimes the case, to the mattress as already directed, it may be made as much like it as possible, which is, by pressing the feathers entirely to the opposite side of the bed; for if she lies down on a high soft bed of feathers, she gradually sinks into a hole, to her own annoyance from the heat of it, and greatly to the inconvenience of the operator, while rendering her proper assistance.

These few remarks, as already hinted, may, by some people be considered extremely frivolous and unimportant; but when observed, it is really astonishing of what vast consequence (*taken collectively*) they are to the comfort, and, I may add, future welfare of the patient. Where a judicious practitioner is employed, as the very *life* of the person is with unlimited confidence entrusted to his care, these instructions, of course, will be unnecessary, because every man who values his reputation, to say nothing of his feelings, will scrupulously superintend all the *minutiæ* of the business, as well as the most important branches of it, which he well knows are so essentially and inseparably connected with the ease and safety of his employer.

It, however, sometimes happens, that women, either from a peculiar delicacy, or some other cause, have it not in their power to avail themselves of the instruction and advice of a man of sense, and that these circumstances are either totally unattended to, or slovenly performed by some ignorant or conceited pretenders, who, of all other people, are the most intractable, and difficult to be persuaded to deviate from their

own established usage. Many a time, where a midwife has been employed, have I seen *her*, with the *nurse* and the *gossips* so completely inebriated, as to be incapable of doing any thing, and the poor woman left to her fate, to do the best she could. It is in such situations, and others, where ignorance lamentably prevails, that these few hints will be considered both seasonable and useful. For the reasons already adduced, I consider it a duty incumbent on most people to become acquainted with the general routine of things of this sort; and such as are disposed to acquire a knowledge of the subject and reduce it to practice, will experience the gratifying reflection both of having mitigated the sufferings of a fellow-creature, as well as of being the instrument of preserving her from future danger or inconvenience, which, to a mind in which the fine feelings of sympathy are not totally extinguished, will be ever considered as an ample remuneration.

ESSAY XI.

REGIMEN, &c. SUBSEQUENT TO DELIVERY.

IT is a commonly received notion among too many people, that as soon as a woman is brought to bed, that every thing is concluded, that every kind of danger is at an end, and that she is then at perfect liberty to eat, drink, and act in every way as is most agreeable to her inclination; than which a more erroneous and dangerous sentiment cannot be entertained by any

one. Subservient to this idea, we therefore find it a pre- generally received maxim, that as soon as a woman is delivered she then requires a tolerably liberal allowance of what is vulgarly termed "that which is *comfortable*."

The situation of a woman under these circumstances, it is to be remarked, greatly differs from a state of inanition or debility from other usual causes, and therefore these symptoms, the unavoidable concomitants of the fatigue incident to child-bearing, are not to be treated in an ordinary manner. In most other cases of these species, I mean where the system suffers an extraordinary degree of exhaustion from temporary exertion, one of the most usual, and perhaps the best method to be preferred, is that of recruiting it by the aid of some stimulus, such as wine, brandy, or other cordials; but in the instance before us, we may rest confident, that it is not only *unnecessary*, but nine times out of ten it will be productive of incalculable mischief; especially when we take into our consideration the impaired action of the digestive powers, and the extremely tender and irritable state of the bowels.

In harmony with these remarks, it may reasonably be concluded, that absolutely forcing a woman, thus circumstanced, to swallow a quantity of mixed strong liquors, must be diametrically wrong, and, for many reasons, extremely detrimental. One of the most prominent of these, is, the degree of fever which is now shortly to be expected, the mildness or violence of which will very materially depend on a right or injudicious regulation of this circumstance. If, after the birth of a child, the mother should feel much fatigued or exhausted, the best and only thing she can take with absolute safety is a little wine alone, or made into negus, or, if more agreeable, it may be united with a little panada or thin gruel; this will sufficiently invigorate her strength, and recover her spirits.

without a danger of heating her or inducing an increase of fever. Ardent spirits at this season can scarcely, under any circumstances, be administered without a hazard of incurring danger, and this for reasons sufficiently obvious to place persons on their guard how they acquiesce with it. In addition to the aggravation of the feverish symptoms before noticed, these sorts of liquors have also this bad effect, that, by their stimulus on the nervous and vascular systems, with the increased force of the circulation in general, and particularly on the blood-vessels of the womb, there is great danger of inducing a flooding, which will, I think, appear a motive sufficiently forcible why their use should not be admitted. If, after delivery, the customary uterine discharge of blood, called the lochia, or cleansings, should be preternaturally immoderate, either from some peculiarity of the organic structure of the womb itself, or from some mismanagement in the labour, nature will beneficently endeavour to restrain and counteract it by an effort of her own. The woman therefore, from this sudden loss of blood, faints, at which time a general contraction of the bleeding vessels take place, by which fortunate event the gush of blood is stayed, and the woman's life preserved; but mark the result; this faintness is usually construed into a most dangerous occurrence, and instead of letting the woman lie quite still, or, as it ought to be, to give her a little cold water, recourse is immediately had to brandy and water, wine, spirits of hartshorn, or some other powerful stimuli, and the consequence of this is, that the action of the vessels is again roused, the circulation re-accelerated, and by such unseasonable, though perhaps well-intended conduct, the woman ultimately loses her life. I therefore again offer a caution against this erroneous opinion, and strongly recommend that every thing of this sort should at this juncture be administered with a very sparing hand.

The principal thing which a woman stands in need of after delivery, is perfect *quietness* and *rest*; for this purpose she should on no account be moved from the situation in which she was delivered for a full hour, lest, by the exertion, too great a discharge of blood may be brought on. If she should now complain of thirst, the best sort of beverage is barley-water, thin gruel, or any other softening mucilaginous liquor about the warmth of new milk; though I would always wish to indulge the inclination in this particular, consistent with her situation. In this condition, then, she may remain for the allotted time, during which the nurse will wash and dress the infant, with other necessary matters. The period being now arrived in which the good offices of her attendants to make her comfortable may more safely be exerted, the bed, which was previously rolled aside, is to be properly adjusted, and the woman being divested of her wet linnen, exchanged for that which is well aired, and a bandage rolled gently round the belly, so as to make some degree of pressure on it, she is to be gently laid down, and having taken the medicine prescribed by the practitioner, is there to be left perfectly undisturbed; nor should the visits of either friends or neighbours be suffered to interrupt that repose, which must clearly appear so essentially necessary for her speedy and safe recovery.

The infant being dressed, is to be laid by the mother's side, but on no account is previously to have its stomach crammed with *food of any description*, but, with the mother, should be left to the enjoyment of a little refreshing sleep. After a lapse of a few hours, when the woman awakes and finds her strength in some measure recruited, the child should be put to the breast, which is a circumstance that cannot be complied with too early. This is reciprocally advantageous to both

parties, as the first milk has a tendency to purge the infant, and consequently cleanse its bowels of the meconium; whilst the milk is encouraged in the mother, by the draught of the child's sucking, which at the same time precludes the danger of its accumulation with all the horrors of a *broken breast*, a circumstance which many a woman unfortunately has to endure, when this salutary precaution has been ignorantly or obstinately neglected. Some nurses are with difficulty persuaded of the necessity of this measure, and, in opposition to the directions of the practitioner, will even detain the child from the breast for three or four days, in the mean time keeping its stomach copiously supplied with an unnatural species of food, the consequence of which perverseness frequently is, that it not only becomes altogether indifferent to sucking, but its bowels and stomach are racked and agonized with pain, which it pretty plainly testifies by writhing its body about, drawing up its legs, with incessant screaming and crying, which the nurse attempts to palliate by renewed doses of that very food which was the original cause of the mischief, and which of course adds materially to its misery. The mother's breast at this time also, from increased quantities of milk, becomes hard, painful, and distended; inflammation follows, a suppuration of matter takes place, and perhaps she has the mortification of being confined for several weeks, to sustain the misery of an abscess of the breast; nor is it by any means an unfrequent occurrence that such a morbid state of it is superinduced, as to put on even the appearance of a *cancerous* disposition, which, with the whole train of distress, might certainly have been obviated, by an early application of the child to it. Surely wretches possessed of such gross obstinacy as this, cannot be handled sufficiently severe; and I heartily wish these few observations may have their due weight with those, into whose hands they may chance to fall, in pre-

venting a repetition of such neglect, seeing that such dreadful effects are the almost certain consequence.

With respect to the article of food, that must commonly be regulated by particular existing circumstances, such as the constitution of the woman, the capability of her digestive organs, bodily strength, and many others, that can hardly admit of any general or specific rule. I would, however, recommend that, for the first three days, nothing should be given but a little plain caudle, without spirits or spices. At the expiration of that time, if not forbidden by the occurrence of any unfavourable symptom (especially fever), should the stomach seem really inclined to it, a little mutton, veal, or chicken broth, with bread, may be allowed; and if all go on regularly for a few days longer, a moderate proportion of animal food; but when the habit is delicate, the stomach is but ill adapted for food of this sort; in such a case, fish, with the exception of the grosser kinds, light puddings, or little boiled chicken may be suitable; taking care that the stomach be not surcharged with an over quantity *at once*. In this state of convalescence, as in most others, the patient sometimes feels a kind of *false* appetite, which, if too much gratified, might be productive of great inconvenience; it will therefore be better and safer to eat but little at a time, and more frequently, than to overload the stomach with what it can by no means digest.

There are some nurses so grossly superstitious, that, if a woman be ever so capable, they will on no account suffer her to be out of bed till the expiration of the *ninth* day, but this being one of their whimsical and nonsensical prejudices, will be treated by reasonable people with its merited contempt, and should, with many other things connected with it, be regulated principally by the woman's strength and capability; it would

certainly be injudicious that she should incur the danger of taking cold by being forced out of bed too early, or to weaken and relax the system by keeping constantly in bed, when she feels able to sit up. The best method is, to sit up a little daily, and gradually to increase the length of time, till the body is so inured to it, that it can be borne without inconvenience; at the same time, I see no reason why a woman should be urged to it, but as she seems inclined, and as her strength will enable her to support it without feeling tired.

In the second essay of this work, I have taken some pains to elucidate the infinite importance of air to our well-being, as it respects the preservation or recovery of health, and how absolutely necessary the admission of it is to our bodies when labouring under disease of any kind. In most disorders we commonly find a great disinclination in people to be receptive of its beneficial influences; and in none more so, than in the apartment of a woman recovering from the effects of her labour. The air as well as the light appear to be extremely noxious in the eyes of most nurses, for, on entering a lying-in room, we generally find both very cautiously excluded, to the certain disadvantage of the patient. Nature in this respect, as in most others, seems to point out to us how we should act; there certainly can be no benefit in exposing a delicate woman to a current of air, by which she will run the hazard of taking cold; but it is an invariable truth, that a proper and seasonable admission of fresh air is an excellent antidote in the extinction of a feverish disposition, and in warm weather in particular is absolutely necessary, as tending to increase the woman's strength and vigour. In rooms, especially bed-chambers, we well know that the air soon becomes corrupted, from continued respiration, and the consequences of inspiring it in a contaminated state will be found fully discussed in another part of this work. Suffice it here to add,

that when this maxim of exclusion is rigidly persevered in, it will always be a great drawback on the recovery of a sick person, whatever the nature of the disease may be. With regard to clothing, as that must also be regulated by various circumstances, such as the season of the year, the constitution, &c. it is impossible for me to lay down a set of fixed rules. Whatever the *quantity* may be, it is always desirable that it should sit loose and easy, not likely by its weight to create, on the one hand, an unnatural degree of heat, nor, on the other, by complying with the custom and fashion of the times, to run the probable risk of catching cold.

There are two or three other things, also, which should be particularly attended to in a woman recovering from the effects of her labour. The first is, that she be very careful that nothing wet or cold come in contact with her skin, lest from such neglect, a sudden or early cessation of the lochial discharge should ensue, which would involve her in a very perilous situation. To obviate such an occurrence, it will be very requisite that the utensil she makes use of be well covered with woollen cloth, to prevent the bare edges or handle from touching her; as some sort of evil *may* arise from a neglect of this precaution, it ought not to pass unattended to. The other, is that of guarding the mind of the patient from any peculiar emotion or agitation. Mental affections, even of the most opposite kinds, will often produce effects on the body equally distressing; thus, for example, a sudden impulse of joy will be as inimical to the valetudinarian as an excess of grief or surprise; both these passions should therefore be equally guarded against as well as any thing which has a probable tendency to excite them. For the same reason I would also recommend that too much company be not admitted till she be very well able to bear it, for when ladies get together they *must talk*; and the fashions or some such topic, excite a very interesting conversation: the

exertion of talking, though not immediately felt by the invalid, will induce fatigue, which eventually, with other things, will prove an impediment to convalescence.

After the first weakness of women in this state has, in some degree subsided, they are apt immediately to conclude that they may then throw aside every kind of restraint, and prosecute with impunity the whole bent of their inclinations. In consequence of this, having soon forgotten what they *have* suffered, and regardless of what *may* happen, they suppose, because they feel tolerably comfortable, that they are at liberty to ride, walk, or act, just as they feel inclined. As these, I conceive, are, at this stage, dangerous experiments, I shall be excused, I trust, in here giving a gentle caution. Walking, riding, or any species of strong motion of body should not be undertaken till the womb has so far contracted as to have nearly resumed its original size ; for although much inconvenience may not immediately be perceived, still it is often productive of much uneasiness ; and many a woman has been troubled with a relaxation and descent of the womb from such indiscretion, than which a more melancholy and distressing complaint cannot, in my opinion, befall her.

It is a very common observation among medical practitioners, that women at the time of child-birth, as well as subsequent to it, possess an uncommon degree of irritability and solicitude as it respects their situation and recovery, and that at this period, they become more than ordinarily inquisitive. Having already endeavoured to explain the sad consequences of exciting any perturbation of mind, it would here appear almost superfluous to repeat, that any circumstance calculated either to elevate or depress the animal spirits should be studiously prohibited. Should symptoms arise which seem to menace any untoward consequences, they should with scrupulous attention

be kept an inviolable secret from them, for the bare suspicion of danger will sometimes place a person in such an awful situation as to preclude the possibility of recovery.

In a lying-in woman the whole frame, both before and for some time after labour, is in an extremely irritable state, and the nerves very susceptible of serious impressions from the most trifling causes. It will therefore be absolutely necessary that the mind should be, as it were, diverted from itself, and all interrogatories on that head replied to evasively. To tell a woman thus circumstanced that she has lost a parent, a husband, or a child, would surely appear to be next to insanity, and yet we well know that some people have, and may again, though perhaps unintentionally, fall into such an error, and we are not without instances where such communications have unhappily terminated in sudden death. The best and most rational method of proceeding in such situations, is, to divert the attention to indifferent subjects, and by every artifice, give them reason to suppose that nothing has been concealed from them, till by degrees they have acquired sufficient strength to bear unpleasant intelligence ; and even then, prudence will dictate that it should be gradually communicated, when there is no longer a necessity for keeping it a secret.

With regard to the *medical* treatment of these cases, it is not the avowed province of this publication to enter on it ; nor is it my design by any means to infringe on the department of the practitioner : my chief object is that of regulating some of the circumstances which actually arise out of these situations, and to lay down a general line of conduct for persons *in his absence*. I have known it very frequently happen, that people, otherwise extremely well-informed, have manifested an entire ignorance on the subject of sickness, and, for the want of some little acquaintance with what is required, have committed the

sole superintendence of these matters to persons perhaps equally ignorant as themselves, but possessing a larger share of confidence and self-conceit. The latter, from their habits, their education, and obstinate conduct, often involve women in the most trying and perilous situations, and therefore should be attended to with the strongest marks of suspicion. If on this subject, any hint I have adduced should be found useful (as it is certainly the result of practice and experience), my object is answered.

On a retrospective view of what has been already advanced, we shall find that there is much *to be done*, but, upon the whole, I believe much more to be *left alone*. If with a common share of prudence and observation we are disposed to take *nature* for our *guide*, we shall not be so liable to wander into the mazes of error, as we shall otherwise do; for however insignificant these observations in the eyes of many may appear, I can with justice and truth aver that they will powerfully influence the patient in proportion as they are adopted or rejected, and that hundreds of women who have been in the fairest way of doing well, have been involved in dangerous situations by the neglect of them; for of the difficult cases which occur, eight out of ten are, I believe, absolutely created by some kind of error or mismanagement.

ESSAY XII.

OF REGIMEN, &c. IN INFLAMMATORY FEVERS.

By the term *regimen*, in its reference to medicine, is implied the keeping our natural appetites and desires under proper regulations and restrictions, in whatever relates to the preservation or restoration of health. Regimen comprehends a number of things independent of diet; these have already been amply treated of in a more general way; I now proceed to make a few observations on it as necessary in particular diseases, commencing with fevers.

In all fevers of the ardent or inflammatory kind, there is a preternatural degree of heat in the body, that is, the heat or fire (on which, in the first essay, I have already made a few remarks) becomes too much increased, from the equilibrium being destroyed. In addition to this, as a consequence, the circulation becomes greatly accelerated, the pulse strong and quick, and an insatiable thirst ensues, with a derangement of some one or more of the animal functions. Under these circumstances it must be very apparent that whatever is calculated to subdue and diminish this heat, dilute the blood, remove the tension and stricture of the vessels, and promote a more copious discharge from the different emunctories, will be most proper.

In order to effect these salutary purposes, after the physi-

cian has prescribed according to his judgment of the case, we find him giving very particular directions that the patient be kept to a very *low regimen*, without which all his endeavours to render him any service would be totally ineffectual. Our first inquiry will be, therefore, of what things this description of regimen should consist.

In the first place, all kinds of animal food or fermented liquors are to be carefully avoided, as tending in a considerable degree to exasperate the disease. Perhaps it has been deemed absolutely necessary that the patient should have lost a large quantity of blood, and take such medicines as were supposed capable of diminishing the impetus of the circulation, and carry off the superabundant degree of feverish heat; but if a patient, as soon as his physician has turned his back, will be so perverse as to act in direct opposition to his orders; if, instead of abstaining from what is prohibited, he will, merely to gratify his palate, sit down to his usual food, and eat freely of flesh meat, &c. and completing the mischief by taking his usual glass, common reason, one would suppose, would inform such a person that he was not only exposing his life to imminent danger, but that, if any benefit is to be received from medical assistance, he is thus undoing what the practitioner is anxiously studying to effect. The physician, by bleeding, endeavours to lessen the powers of the circulation, and, by active evacuations, to dilute the viscosity and grossness of the blood, and thus bring the disease to a favourable issue: but what will be the consequences of this disobedience of orders? Why, instead of diluting the blood, animal substances must enrich and inflame it; and instead of conquering the rapidity of the general circulation, wine and cordials only increase the burning, and therefore render every effort of the healing art perfectly nugatory and ineffectual.

When we say that a person is to be kept *low* (which, in all cases of inflammation, is, I verily believe, of equal if not of more importance than medicines), we mean that he is not only to abstain from meats, broths, wine, beer, or fermented liquors, but that he is to adopt substitutes both for food and drink that shall in their nature be diametrically opposite. It most frequently happens, that the stomach is so impaired in fevers, that it will even recoil with disgust at the bare mention of eating, nay, the very thoughts of meat will sometimes induce nausea and vomiting. These situations are commonly attended by an unconquerable thirst, which, if ever so much indulged, will never be extinguished until the blood is diluted and attenuated; and in proportion as this is effected, that symptom will gradually subside. We will, however, suppose for a moment that the patient is not so much harassed with these symptoms, but that he at times feels a great inclination for food; yet surely no one can be weak enough to imagine that he may therefore eat whatever his depraved appetite suggests. The best sort of food in such situations, is ripe sub-acid fruits, as currants, strawberries, gooscherries, raspberries, roasted apples with a little bread or biscuit; again, water-gruel with sugar, sago, tapioca, panada without spices or other stimulants, currant jelly, or rice gruel, will be evidently the most eligible substances he can use.

Setting aside for a moment food or nourishment, I believe that it will generally be found of much more importance to a person in an ardent fever to direct him to such liquids as he may freely resort to, as are calculated to abate his thirst, without incurring the hazard of increasing the fervor of his disease. Those drinks which are most desirable are thin water-gruel, barley-water, or the same with raisins and liquorice-root boiled in it, common runnet whey, balm or mint tea, or imperial, any of which may be acidulated with

lemon-juice, oranges, cream of tartar, pulp of tamarinds, or currant-jelly; for, as there is always a most unpleasant and nauseous taste in the mouth, and the tongue parched, dry, and covered with a thick crust, acids will in general be found of considerable efficacy in relieving these disagreeable symptoms.

If in this particular we will be disposed to be admonished by nature, which generally directs us to what is most beneficial for us, we may soon acquire additional information in the administration of drinks. In consulting authors on this subject, we shall meet by far *too many* of them urging the necessity of febrile patients making use of every thing they drink *warm*, and it would be almost considered a piece of arrogance in any one to espouse a different system of practice; without the smallest fear, however, of lying under this imputation, or of incurring the censure of the *learned*, I have not the smallest hesitation in advancing, in opposition to such an hypothesis, that it is much more advantageous, as well as agreeable to the patient's feelings, that all his drinks should be taken *perfectly cold*, and this for the best and most cogent reason, namely, that it tends to diminish that superabundant heat with which the patient, throughout his frame is so replete.

Hippocrates, whose principal study was to trace nature, and follow her in all her windings, for the purpose of establishing the basis of his practice, laid it down as one of the first principles in fevers, that nothing was so salutary, as well as gratifying to the patient, as allowing him to drink cold water even beyond satiety; while *Celsus* and many others of equal celebrity, in unison with this sentiment, gave it as their decided opinion, that cold water is a positive and perpetual antidote to the dreadful ravages of fevers. But more modern practice seemed to have nearly superseded the doc-

trines of those great followers of truth till within a very few years, when practitioners began to discover the inefficiency of their system, and, after a lapse of several hundred years, at last found out that *nature* was the best physician, and therefore, though perhaps with some degree of reluctance, reverted to that wise plan, so ably established by men of the most profound study and deep research. In my humble opinion, also, there can be nothing more preposterous and repugnant to reason, than that of compelling a man in a burning fever to drink thick mucilaginous liquids, and those warm, when his own feelings direct him to what is much more beneficial, as well as gratifying. Let any one inquire of a person in this state, what he is most anxious for, and nine times out of ten he will reply, *cold water*; and why? because it allays his thirst more readily, cools his parched mouth and throat more effectually, and renders the complicated distress of his general uncomfortable sensations more tolerable. If we positively see such incontrovertible happy effects are the result, why, in the name of common sense let me ask, should he be debarred from that which evidently contributes so much to his relief?

But along with these, there are many other circumstances, which I think may with propriety be considered as connected with, or arising out of the subject now under consideration. The first, which is of equal, if not more importance than any, is that of permitting the patient to enjoy the advantage of free cool air. As we are conscious that the preternatural heat I have before alluded to, forms the principal constituent of fever, that as contraries are the cure of contraries, and that cold, which is the opposite to heat, is its most powerful antidote, I cannot too strongly recommend that method which the ancients found so extremely efficacious in all degrees of fevers, viz. exposing their patients to the effects of *cold air* as much as possible. Instead, therefore, of keeping

a person in bed, with an immoderate quantity of covering, with the common but injurious notion of encouraging perspiration, I would earnestly advise, if circumstances allow it, that he be led into the open air, and that as long and as frequent as his strength will admit of. If, however, the symptoms are so severe that this cannot be put in practice, I would say, let his bed-clothes be light and few, and in that situation even let him have as much of the benefit of fresh air as possible.

I am well aware of the disinclination people commonly manifest on this subject, and that with the very best intentions, the length of a disease is very much protracted, merely perhaps from an error in judgment. Instead of admitting fresh air freely, we shall more frequently find the patient shut up in a close room, if in bed, his curtains drawn about him, and every aperture in the apartment carefully stopped. As such a practice is extremely prejudicial to the patient, I would earnestly request that it be altogether abandoned from their creed; for nothing can tend more effectually to refresh a person in a fever, particularly in warm weather, than to let a current of fresh air frequently pass through his room, by opening the doors and windows, that is, before the approach of evening; still, however, keeping this maxim in view, that the degree of heat or cold should always be measured by the feelings of the patient, as that which is pleasant to his feelings will be for the most part profitable towards his progress to convalescence.

In addition to the free admission of air, especially when the disease is of any length of duration, it becomes absolutely necessary that the patient's room should be well purified, by the assistance of some aromatic vapour; and when there is reason to apprehend infection, or any noxious or offensive smell is perceived, to endeavour to destroy both, by the va-

pour of nitric-acid. As the operation is easily performed, and exceedingly salutary in its effects, I shall here subjoin the method of doing it. Let the room, in the first place, be shut close; heat some common house sand in a fire-shovel; take a tea-cup with half an ounce of concentrated sulphuric acid, commonly called oil of vitriol, and place it on the sand; when it is hot, add gradually half an ounce of nitre or salt-petre, previously reduced to powder; let the mixture be kept stirred with a piece of common glass, till the vapour arises so as to fill the room; and this process is to be repeated as often as any unpleasant smell is perceived in it. It will, however, be noticed, that as this vapour is not only thus useful, but one of the most powerful antidotes against pestilential contagion or putrefaction, its use will be of much greater importance in fevers of the infectious or putrid kinds, of which it is my intention briefly to treat hereafter.

People in most kinds of fevers usually complain of a nauseous and unpleasant taste in the mouth; some comparatively describe it as resembling copperas or vitriol; others, of every thing tasting sour; others, bitter. The cause of this is, that the numerous papillæ, or emulgent vessels which cover the surface and edges of the tongue, are vitiated by the effect of that foulness or fur which usually envelops the surface of it. When the tongue is thus coated or lined, it should be frequently scraped with a piece of whalebone, or the bowl of a tea-spoon, and the mouth well rinsed afterwards with a little honey of roses, mixed with vinegar, or lemon-juice and water; and as it can be considered merely symptomatic of the original complaint, in proportion as that subsides, this disagreeable affection goes off. The face, hands, and indeed the general surface of the body should be frequently washed with a little luke-warm water, or, if the patient can bear to have his skin bathed by the means of sponges dipped in cold water, it will

be more to his advantage, especially if there be any affection of the head, which this remedy seldom fails of relieving; added to which, the room may be occasionally sprinkled with vinegar or camphorated spirits, and the same sometimes thrown on the sheets, or a handkerchief, and held to the nostrils of the patient, which will generally be found very grateful and refreshing to him.

As I conceive the practice of Dr. Currie, with respect to the cold and tepid bath in fevers, to be of the greatest importance and utility in curing them, I cannot quit this part of the subject without making a few observations thereon. The process is no less simple than advantageous, and consists merely in the liberal application of water, either cold or luke-warm, (the former is much preferable) to the whole surface of the body, which should be as often repeated as the heat rises above the natural degree of health. In situations where the affusion or immersion in the cold bath can be readily applied, it will frequently carry off an incipient fever *in toto*. In the London Fever Institution this method has been attended with unprecedented success, and is there considered; after a succession of experiments, as the most efficacious febrifuge in existence.

Dr. Bateman, the physician to that philanthropic institution, observes, that in all kinds of fevers a uniform success has followed when the water has been properly applied; and that even in cases which in the first instance did not promise the advantages fully desired, the result was commonly favourable. In fevers where the temperature of the body is very high, the skin yielding a burning pungent heat to the touch, with the usual concomitants of ardent fever, nothing seems so effectually to reduce them as the application of cold water. The universal opposition this system of practice has to en-

counter from the uninformed, will no doubt prove a very considerable barrier to its general reception; to remove pre-conceived and bigotted opinions from the minds of the multitude, is an Herculean task, which, even with the most determined perseverance, can with difficulty be established; and if a little cold water to drink, in fevers, be strenuously opposed, it is not much to be expected that a more enlarged application of that renovating element will meet a cordial and unanimous reception. It is not here advanced as a dogmatical theory, or bold experiment, but as a *well attested* remedy, universally safe in its effects; and I shall experience no small share of self-gratification in being the least instrumental in introducing it to more general notice, though probably that idea may appear to savour of vanity, when men of renowned and acknowledged learning have not been so much attended to, as their sanguine expectations at first led them to imagine would be the case.

Nothing can be more opposed to the welfare and recovery of the patient, than, as is too often the case, allowing him to lie for many days in the same linen, for fear of giving him cold. Many people consider it nearly criminal to propose a change of this sort, and think it much more eligible that he should remain in a reservoir of filth and nastiness. This is a line of conduct that deserves universal execration, for as long as this is continued, the linen being saturated with the sweat and saline particles of the body, and that being in continual contact with the skin, is readily taken up again by the absorbents, and returned into the general mass of circulating fluids, than which a more effectual means of aggravating and procrastinating the disease cannot be adopted. If strict attention to cleanliness be a desideratum in health, as every one must be convinced it is, surely there can be no doubt, but that the same maxim is equally advantageous to a person

labouring under disease, especially fever. There cannot therefore be the least objection to change the linen of a sick person as often as in health, provided it be dry and well aired, or even oftener, because, from perspiration and other causes, it becomes at these times much more speedily soiled and dirty.

In fevers, as in most other disorders, I presume it is scarcely necessary to insist on the propriety of avoiding every circumstance tending to affect the mind of the patient, and of keeping him free from all company, noise, or any thing pertaining to his ordinary occupations or employment; his attendants should be few, and not often changed; even too strong a light, or any thing which operates powerfully on the senses, should be sedulously avoided. His desires and inclinations, so far as they are not inimical to his situation, should if possible be complied with, and when that is impracticable, he should be pacified by soothing and expostulatory measures, under a promise that at some other time his wishes should be gratified. Contradiction of any sort should never, if possible, be used with the sick, especially in cases where there is the least derangement of the mental faculties, which, however trifling it may appear, is on every account fraught with incalculable mischief to the patient.

So far as the regimen and management of persons in fevers of the ardent or inflammatory kind are concerned, these will, I believe, be found the principal objects connected with the comfort and convalescence of the patient, independent of the *medical department*, with which these few rules are not designed to interfere. In most complaints of the same class, as topical inflammation, quinsies, pleurisies, peripneumonies, internal inflammations, as of the lungs, viscera, &c. these maxims will be found equally to apply. In all of them there

is an increased circulation, and every thing calculated to increase them must of course exasperate the disease. One piece of advice I conceive it absolutely necessary to enforce, which is never to deviate, on the subject of *regimen*, from that plan which a physician has laid down; he, as a disinterested person, anxious for the recovery of his patient, will certainly direct such measures as in his judgment appear best adapted to his case, and if these be opposed, all his endeavours by *medicines* will be fruitless and unavailing.

ESSAY XIII.

OF REGIMEN, &c. IN FEVERS OF THE LOW KIND.

UNDER this head I include such fevers as are of an opposite nature to those of the inflammatory or ardent kind, and in which there is a *defect* of vital heat, as is commonly the case in nervous, typhus, and putrid fevers, the latter of which, from the dissolved state of the blood, and the rapid declension of the vital powers, require a regimen the very reverse of what has been lately directed, and which has usually been distinguished by the term *high* or *cordial regimen*.

On fevers of the putrid kind (among which may be included the plague, spotted or petechial fevers, pestilential, malignant, camp, and jail fevers, and the putrid stages of the

confluent small-pox) we may first observe, that as the vital heat, and the adhesion and quantity of the crassamentum of the blood mutually depend on each other for the regular performance of the animal functions, and as the application of putrid infection both dissolves the blood and repels the vital heat, it will of consequence follow, that whatever has a tendency to counteract these symptoms, to restrain the putrefactive progress, support the strength, and recal the vital heat, is clearly indicated.

Inflammatory diseases especially are not unfrequently converted into their opposites. Thus, for example, a fever which in the beginning was purely inflammatory may, either by mismanagement or from a peculiarity of the body, be continued so long, as at last to put on every appearance of putridity. The absolute necessity of cool air in fevers I have already explained, and it becomes necessary to add, that those who have been denied the benefit of it are frequently the subjects of this dreadful species of fever. Heat of all other things possesses the strongest septic quality, and has the most ungovernable propensity to generate pestilential fevers; it is therefore in this species of fever also of the very first importance, that the patient be allowed to breathe a cool air, to be kept from large fires and hot rooms, and to lie upon a mattress in a cool spacious apartment, with no greater quantity of clothes on him than what is calculated to preserve only a moderate degree of warmth. For the want of a proper attention to these circumstances, vast numbers are materially injured, for by too much warmth putrid diseases in particular are highly augmented, and very often rendered fatal. Air is a more powerful and effectual cooler of the body than any medicine administered internally, and in pestilential disorders becomes of double importance in order to remove the putrid steams. With a view therefore of effecting this beneficial

purpose, the curtains of the patient's bed are to be kept undrawn, with but little covering, the linen, bed, and even the room, frequently changed, the door and windows for the most part kept constantly open, nor any one permitted to stay in his room but the necessary attendant. This should, if possible, be observed even in the worst stages of the fever.

The state of the air may be also altered by making an artificial atmosphere; this may be effected by the means pointed out in page 242; burning myrrh, or other aromatic and antiseptic ingredients, and having a piece of flannel moistened in vinegar applied to the stomach and breast, and a sponge dipped in the same placed upon the pillow, as near to the nose as possible, will also be of essential service. The room should likewise be frequently sprinkled with the following vinegar, commonly called *the vinegar of the four thieves*, which is thus prepared: take of rue, sage, mint, rosemary, wormwood, and lavender, of each a handful, infuse them together in a gallon of white-wine vinegar, put the whole, closely stopped in a stone pot, in a gentle heat for eight days; then strain it through a fine sieve, and put it into quart bottles well corked, previously adding to each of them a quarter of an ounce of camphor. These methods, if pursued effectually and in proper time, may be of very considerable advantage both in mitigating the symptoms, and preventing the extended ravages of infection.

The second intention is to animate, comfort, and support the animal spirits, which preside over the whole body, govern and assist its functions, and pre-serve a just economy in the whole; to stop the putrefactive tendency in the blood; to recover the consistence and union of its parts; to restore the harmony of the animal machine, to enable the active vital principle of the body to throw off the morbid matter by a

critical separation from the whole mass, and to supply the place with healthy well-conditioned chyle and blood. For this purpose I shall briefly observe, that although it is not my intention to touch on the cure of diseases, Peruvian bark stands unrivalled, which being administered under the direction of a judicious practitioner, is the principal medicine to be relied on in these deplorable disorders.

Leaving again the consideration of *medicine* out of the question, I shall proceed further to observe, that with respect to the regimen in these diseases, it should, as tending to second the efforts of the physician, consist of such things as are calculated to support the patient's strength; with this intention, as well as for the purpose of counteracting putrescency, he should be supplied with liberal quantities of good port wine, or wine negus, strongly impregnated with acids, which may be necessary to extend from one to three bottles daily, according to the violence of the putrid symptoms. Acids of all kinds are of peculiar use and advantage; every thing therefore which he swallows should have the juice of lemons, oranges, or vinegar mixed with it. Madeira or sherry wine may occasionally be substituted for port.

With respect to food, every thing that is nourishing, but at the same time light for the stomach, will be most proper. A most excellent part of diet in these cases, is beef tea, by which is meant beef that is boiled long enough to extract the finer parts of the meat, but not continued so long as that the grosser parts of it be drawn out. Panada, gruel, sago, salop, or arrow-root with wine, sugar, and spices are extremely proper, as well as calve's-feet jelly, good broths, with all manner of ripe sub-acid fruits which cannot be eaten too freely; or if these are not to be procured, preserved fruits, roasted apples, currant jellies, currant and gooseberry tarts, &c. taking par-

ticular care that the stomach be not overloaded at once, which might create sickness, and cause indigestion.

It will also be of considerable importance that the patient be kept perfectly undisturbed ; and the stools, urine, and every thing excrementitious should be removed from his chamber as soon as voided. His mouth and teeth, which are usually covered with a black fur or glaire, should be frequently scraped and cleaned, and well rubbed with some lemon juice or strong vinegar, whilst the whole surface of his body, particularly the hands and face, should be frequently sponged with water or water and vinegar mixed.

To sum up the whole, every thing which has a tendency to restore the vital heat and keep it as near as possible to the standard of that of health, to allow the patient plenty of cool air, to keep his linen clean by frequent changes, to keep the animal spirits calm and undisturbed, to counteract the tendency to putrefaction, and to increase the vigour and tenacity of the blood, seem to be the principal duties of attendants on patients labouring under these deplorable maladies.

There are some kinds of fevers which are usually termed nervous, which require rather a middle course with respect to regimen, between these two extremes. In this case it must be adapted to the nature, progress, duration, and degree of the complaint; due regard being paid to the constitution, general habits of life, and most particularly to the state of the vital powers. These, with the defect of nervous influence, will considerably guide us in discriminating how far the high cordial regimen is to be opposed to the low; for in these cases we shall soon perceive that this morbid debility of both systems is only an increased degree of the lax and delicate temperaments, and is to be prevented by adding to the vigour of the vital

powers and bracing the relaxed nerves, by a moderate proportion of the high, stimulating, or cordial regimen.

In all kinds of weakness, from a defect in the nervous influence, which may be said to form the principal leading characteristic in fevers of this class, that regimen will be indicated which has a tendency to animate the body, restore the energy of the nerves, and bring about an equable circulation. For this purpose, a nutritious diet, as good mutton or veal broth, beef tea, calves' feet jelly, and wine in a moderate proportion will tend most effectually to assist the power of the medicines which may be employed to strengthen and invigorate the system. And here one precaution appears to me of essential importance, which is, that people, after the effects of a fever have in a great measure subsided, and are in a state of convalescence, frequently feel a very keen appetite, which, with a view of increasing their strength, they are anxious to gratify with large quantities of food. This is always extremely wrong, as the digestive organs, in common with the other functions, must have participated in the general internal derangement, and positively incapable of digesting many of the things which a perverted inclination may suggest. In making, therefore, an alteration of regimen in these situations, the best mode is to proceed in a progressive manner, changing the low diet for one a little more nutritious, and so gradually going on till the stomach is inured to its usual kind of food, by which the danger of imposing too hard a task on it will be prevented, and a daily increase of strength will be the result.

On recovering from fevers, much benefit will be derived from a change of air, by leaving a large town for the country, using exercise, particularly on horse-back, in proportion to the bodily strength, partaking moderately of the amusements of the country, and enjoying cheerful society.

Fevers are a species of disease which, by medical writers, are supposed, from their frequency, to sweep away more people in a year than almost all the other complaints incident to man, so much so that nearly one half out of the general mass are said to die of these complaints; whereof errors in diet, with an inattention to the non-naturals, may be reckoned among the general causes. There are thousands who ignorantly suppose that in such disorders, *every thing* is to be done by the physician, with the assistance of *medicine*, and that nothing farther is necessary on *their* parts ; but in order to shew the folly of such a notion, I feel no hesitation in saying, that although fevers are so common a species of disease, there are none that mankind are subject to, in which a *physician* can do less, or which admit of so little mitigation by *medicines*. Regimen and a proper attention to general circumstances, as air, cleanliness, good attendance, &c. are, in my idea, of much greater importance, for in spite of the aid of physic, if these are neglected or misapplied, every thing beside will be of little avail.

ESSAY XIV.

OF REGIMEN, &c. IN A DEPRAVED STATE OF THE HABIT, COMMONLY CALLED THE AL- TERATIVE REGIMEN.

By the term *alterative* is to be understood all such substances, whether referring to medicines or aliments, as have the property of correcting or *altering* a vitiated state of the general mass of fluids, without any manifest evacuation or operation. A morbid affection of the humours may be excited from various causes, to understand which properly is of the first importance in the science of physic, as a right comprehension of the subject will be the most certain guide in the cure of diseases; and from hence we may ascertain the particular morbid temperature or constitution of the fluids in different persons.

These diseases are in many cases hereditary, and will admit, perhaps, at the most of only palliatives, but a much greater number take place from intemperance, debauchery, or from errors in diet, living in impure air, being too long confined to salted provisions, or, in short, from any exciting cause capable of producing a morbid change in the animal juices, which communicating these effects to the solids, render the whole body generally diseased; and which will require every attention on the patient's part to eradicate.

The good effects of an alterative regimen will be derived from persevering in the use of such substances as have an evident tendency to assuage the acrimonious quality of the blood, to supply it with mild healthy chyle, and, by amending the general depravity, restore the just equilibrium of the animal heat, and consequently recruit the weakened and exhausted state of the system. For these purposes, an alterative regimen implies an abstinence from animal food and strong fermented liquors, and substituting in their room a diet composed of milk in various forms, vegetables, farinaceous substances variously compounded, and light fruits, all or any of which are to be adopted with rigid determination, if the desired end be rationally expected.

In different constitutions there are various diseases that require this kind of regimen, and which should be regulated according to their degree or virulence. A depraved and acrimonious state of the blood may exist from opposite causes ; in one man it may arise from a morbid viscosity or tenacity of the blood, and in another from an impoverished or dissolved state, inclining to a septic tendency.

One of the most common complaints which particularly points out the necessity of an alterative regimen is the scurvy, which, whether it be the land or sea scurvy, is a disease of the putrid kind, but with some distinction. The latter does not generally arise from a spontaneous degeneracy of the fluids, or from the change of a healthy condition into a morbid state, but from very powerful and obvious causes, as putrid and unwholesome food, which, being received into the system, and converted into an unhealthy chyle, acts as a septic on the fluids, and at last, though there may be no predisposing or constitutional tendency to this disease, converts the whole mass of fluids into a state of putridity.

In the land scurvy, however, there is this difference, that although it is a disease of the same inveterate nature, it is induced not so much from the quality of the food, as from a fault in the constitution itself, for the food and chyle produced from it acquire a putrid tendency, from impaired digestion, general relaxation, intemperance, or any other cause inclining the body to a putrid disposition.

Without advancing a sentiment relative to the *medical* treatment of these complaints, I shall observe, that by whatever means it is primarily induced, we shall evidently perceive that they arise from a corrupted state of the juices, which will very much depend on the mode of regimen for restoring the fluids to a healthy state, and thereby finally curing the disease. The principal article in the cure of this malady will consist in a proper change of diet, to such a one as is directly opposite to that which induced it.—Let the sailor exchange his salt beef for acid fruits and wholesome vegetables, his putrid water for that which is fresh, his cold damp air for a warm dry room, and a cure will speedily follow.

The land scurvy being more the effect of a predisponent cause in the constitution, the cure is with more difficulty obtained, and will strongly point out the necessity of continuing the alterative regimen for a very considerable length of time ; flesh meats of all kinds should be prohibited, as well as wines ; for these should be substituted milk, vegetables, acids, with every thing calculated to afford a bland nutritious chyle and enable nature to carry on a regular circulation.

In incipient consumptions of the lungs, which owe their origin to a scrofulous taint of the habit, much, in the first instance, might, no doubt, be sometimes effectually done, were it applied in time. If, as soon as there was the least reason to

suspect any disease of this delicate organ, with which life itself is so much connected, a person were immediately to put himself on an alterative regimen, such effects and changes might be wrought in the system, as to stifle the complaint in its embryo ; but the misfortune is, that the patient seldom thinks an abatement of his ordinary course of living necessary, till death treads close upon his heels ; he then applies for assistance to a physician, and fondly thinks that medicine can effect a cure ; but now it is too late, the mischief is irretrievable ; and he gradually passes through the different stages of the disease, an object of commiseration and regret.

In scrofulous and glandular obstructions, as that which is commonly called the king's evil, much might also be effected by the same means ; for a diet composed principally of vegetables, drinking plentifully of milk, and avoiding all acrid stimulating food, would be of more service in removing this complaint, if early resorted to, than all the medicines in the world. Again, in gouty habits, even where the disease is supposed to be hereditary, much may certainly be done to check the progress of it by the adoption of an alterative regimen, and studiously avoiding every kind of animal food, and strong fermented liquors. *Dr. Cullen*, in conformity with this opinion, observes, that if any man feel disposed early in life to abstain from animal food, use a considerable degree of bodily exercise, and determinedly adopt the regimen before mentioned, he will most assuredly prevent its continuance, even though there may be an hereditary disposition to it, or has discovered itself by several inflammatory paroxysms.

When a person in health begins to be affected by disease, from some defect in the body, the disorder first takes place from a depraved and vitiated state of the fluids, which is soon extended to the solids, and impairs the general state of the

whole system. In an atrophy, or what is usually called a nervous consumption, the body diminishes and falls away, and the general strength fails, without any organical disease or apparently adequate excitement. The certain and physical causes of this malady arise from an impoverished state of the whole mass of blood and fluids in general, and under these circumstances the vigour of the system is exhausted by profuse perspiration, which being duly suppressed, the fluids become more dense, the body acquires nutrition, and the disorder gradually subsides. The evident means for removing complaints of this kind will consist in restoring the healthy state of the juices (the chyle in particular), to warm, animate, and add to the vital heat of the body, by a nutritious and invigorating food, and of preserving it in such a state by that alterative kind of regimen which can alone keep them in the due equilibrium inseparably connected with a regular discharge of their several functions, and consequently with the only means of supporting it in a due proportion of health.

In the venereal disease, which is one of the most dreadful maladies which can attack the human frame, the cure is known to be effected by the powers of mercury making a complete and radical change in the whole mass of circulating fluids. In this disease, also, the cure will not only be assisted, but also very materially depend on this sort of regimen, as well as the general conduct of the patient himself.

From these few cursory observations, it may be perceived of what infinite importance, in the cure of all kinds of diseases, an attention to regimen is, for as much will depend on this as on the efforts of the physician in the prescription of medicine; yet, it is equally certain, that more will rest with the patient, in proportion as he inclines to that line of regimen which he is directed to pursue.

There can be no doubt, as already observed, but that the whole constitution may be altered by medicines, which operate by slow and insensible degrees on it, and the whole mass of fluids dispossessed of their vitiated particles ; but it is an equally notorious fact, that the same effects may be produced by particular kinds of regimen totally independent of medicine. These, by such means, may be attenuated or condensed, rendered of a mild or acrimonious quality, coagulated or diluted to almost any degree. Nor are the solids less influenced by the same means, every muscular fibre of the body admitting hereby of being either braced or relaxed, of having its tone, flexibility, or sensibility considerably increased or diminished ; but, in addition to all this, however powerful the influence of medicine may be in these respects, yet if the aliments, general course of regimen, and attention to the non-naturals in particular are neglected, all the efforts of the healing art will be vain and fruitless. The effects produced on the body by the alterative regimen may not be strikingly evident to the senses, but its beneficial and salutary consequences will be no less certain, and beyond all dispute much more permanent, and always obtained with greater facility.

RECAPITULATION:

Of the various Classes of Regimen in different Species of Diseases.

Low regimen, or that which is indicated in fevers of the inflammatory kinds :—

Panada ; oatmeal gruel with sugar ; sago, arrow-root, or salop with milk ; tapioca, roasted apples, with bread or biscuit ; all ripe sub-acid fruits, as strawberries, raspberries, gooseberries,

mulberries, grapes, &c. rice gruel with currant jelly in it ; plain puddings of bread, batter, or rice ; and towards the decline of the disorder chicken, veal, or weak beef-tea.

Drink.

Thin gruel, barley-water, pectoral decoction, balm or mint tea, imperial, but particularly cold water ; any of which may be acidulated with lemons or oranges, tamarinds, cream of tartar, or currant jelly. Milk and water, common runnet whey, common black tea, linseed tea, decoction of liquorice with figs and raisins, decoction of marshmallows, lemon and orange whey.

Restorative Regimen, when in a State of Convalescence.

All kinds of puddings, composed either of bread, rice, or batter with milk ; the jelly of calves' or neats' feet, of harts-horn or isinglass, moderately spiced ; shell-fish, as oysters, cockles, lobsters, crawfish, shrimps, prawns, &c. Fish (with the exception of salmon, eels, herrings, and others of the gross kind), as soles, flounders, whittings, skate, haddocks, plaice, which are preferable boiled to fried or stewed. Animal flesh, as fowl, rabbit, veal, lamb ; all kinds of wild fowl or game, which are generally light of digestion as well as nutritious.

Drink.

Fresh small beer, spruce-beer, diluted cider or perry, porter, small ale, wine negus, weak brandy or rum and water, port or claret wines.

High cordial, stimulating, generous, or nourishing Regimen.

Light puddings of all kinds ; rich broths or gravy soups ; all kinds of shell-fish ; the flesh of young animals, as veal, lamb, mutton, pork, beef, &c. poultry of all kinds, killed young ; hares, rabbits, partridges, pheasants, &c. gelatinous and inucilaginous substances, as those of calves' or neats' feet, isinglass, hartshorn, &c. with wine and spices, or milk ; soups, composed of meat and vegetables ; eggs with wine, or variously prepared with milk.

Drink.

Ale, porter, or stout ; brisk perry, or cider ; sherry, Madeira, Lisbon, and port wines ; brandy, rum, gin, or shrub mixed with water.

Alterative Regimen.

Light puddings of all kinds, as rice, bread, batter, variously prepared with milk, eggs, &c. bread and milk, gruel, panada, arrow root, ground rice boiled in milk ; all kinds of baked flour, as rusks, cakes, biscuits ; fruits of all kinds, or fruit pies ; vegetables of all sorts, raw or cooked, as peas, beans, French beans, cabbage, greens, asparagus, artichokes, potatoes, &c.—raw, all the different salads, sorrel, watercresses, &c. scorbutic juices of plants.

Drink.

Milk principally, milk and water, or common runnet whey, infusions of British herbs ; foreign teas, not strong ; good table

beer, or spruce beer ; occasionally weak red or white wine negus, if agreeable acidulated.

That part of regimen relative to each class which comprehends air, exercise, sleep, the excretions and retentions, the passions, &c. being treated of at large, under their respective heads, it was thought unnecessary here to recapitulate.

ESSAY XV.

REGIMEN, &c. OF INFANTS AND CHILDREN.

ALTHOUGH it is a matter of absolute necessity that infants should be put as early to the breast as possible (that is, I mean, where they are intended to be suckled) after birth, for the purpose of obviating the melancholy consequences of such omission, which I have in a former essay endeavoured to particularize ; yet, it may be noticed, that, for the first three or four days after birth, nature seems to require very little food or nourishment, except what it derives from sleep, to which we most commonly find them inclined, if not interrupted by disease, or acute pain ; for the stomachs of new-born infants are supplied with a mucus, which is generally a sufficient nourishment until the secretion of the mother's milk.

About the third day from delivery this begins to take place, and in a day or two more, if properly encouraged, there will

be a tolerably copious supply of it, so as to enable the mother fully to discharge this her most positive duty. The breast milk, it will therefore be supposed, is the most natural as well as most salutary kind of food for an infant, which, from its nutritious quality, and being most easily assimilated in their tender stomachs, should never be denied them, unless imperiously forbidden by any causes which can at all justify so unwarrantable a practice. There is a vast number of mothers, but hardly deserving such an epithet, who, on the most trifling account, cannot be persuaded to the discharge of this part of their duty; the consequence of which is, that the infant is placed under the care and management of a wet nurse, who, if her milk be not very young, is sure to disorder it very severely; and for this very obvious reason: perhaps she may have lain in six, eight, or twelve months (though this, for the reward, is usually concealed) during which time she has suckled her own child; but as her milk is become too rich and mucilaginous for the stomach of a new-born infant, whose digestive faculties are very weak, this seldom fails of greatly disordering its bowels; to remedy which, recourse is had to medicine, which only exasperates the malady, and thus the unfortunate infant is sent prematurely to the grave.

One of the first objects into which a woman who does not suckle her own child ought to inquire, when she places her child with a wet nurse, is, how long she has lain in, and consequently, how far it may be probable that her milk will agree with the child. In the human milk, when properly adapted for a young infant, it will be found, on examination, of a very fluid consistence, of a sweet pleasant flavour, and in colour of a pale blue, and almost clear. As it becomes advanced in age, it undergoes a material change in most of these respects; its colour is more opaque and whiter; it appears more gross, heavy, and impregnated with oil, and, in addition

to the sweetness, there will be perceived a saltish taste. When this is the case, it will be sure to produce considerable pain and inconvenience, notwithstanding any asseverations the nurse may advance to the contrary; and as some people probably may plead ignorance with respect to the power of judging, the opinion of a medical man can be easily and speedily obtained on the subject, which, on all occasions, should prove decisive; for, by such precautions, not only is the child saved much pain and distress, but probably its life preserved, a very ample stimulus to any one not destitute of every sentiment of humanity.

Leaving, however, this part of the subject, impressed with a hope that this natural duty will be acceded to by such parents as value their children's lives, I proceed to remark, that there are doubtless some situations where suckling cannot be performed without evident risk to the mother's welfare, as well as for many other reasons by no means necessary for me to enumerate. We will therefore suppose that a child, from some or other of these causes, is to be what is called brought up by hand; the question then is, what food is best adapted to its growth and thriving? An obvious answer to such a query seems to present itself, and if in this circumstance we observe how wisely Providence has contrived this matter, we shall, no doubt, be nearest what is right. The milk of the mother, when in a healthy state, appears to combine in it both animal and vegetable properties; it will, therefore, be evidently improper to keep a child entirely on animal food, or vegetables only. It may be most eligible for an infant, that the diet should be a mixture of about one-fourth of light broth, with a mixture of some farinaceous substance, as arrow-root, ground rice, or bread, and the remainder made up of tops and bottoms, rusks, or toasted bread boiled in water, and made of a proper consistence with new milk, without spices, wine, or

any other thing, with a view of amendment; and for children who seem inclined to be weakly, a little arrow-root with jelly, will form a very nutritious kind of food.

With respect to the weaning a child, that should always be effected gradually; and the time when it can be done most safely, is, when it is from eight to twelve months old, having cut four of its teeth, the general health good, and the bowels in a state of regularity. For this purpose the times of suckling should be insensibly decreased, and the child fed with the food above-named, taking care that it be occasionally varied. In this manner the weaning will be easily borne, the child will suffer much less inconvenience, whilst the rest of the mother will not be so much disturbed, as is most times the case in the ordinary method of doing it.

Many of the diseases of children seem much to depend on their cutting their teeth; from this cause their stomach and bowels are often out of order, and fever, coughs, convulsions, and many other alarming complaints come on. In such situations children should be kept cool, dry, and clean, and occasionally taken into the air; if thirsty, milk and water, or a little herb tea, will be proper for their drink; and their diet confined to vegetable mealy substances and milk, all animal food being at this time carefully avoided. By some such treatment as this, the disease is moderated till the teeth come through the gums, when, as the symptoms decline, the child may resume its former regimen.

In the disorder called the rickets, which is induced from a relaxed state of the solids, that regimen will be most proper which is dry and nutritious, avoiding slops as much as possible. The air, the exercise, with the whole of the non-naturals, should be also particularly attended to, and moist or crude,

viscid, indigestible food carefully avoided. The cold bath also is extremely serviceable in this disorder, as tending to restore the general strength of the system. In short, good nursing, free air, cleanliness, and a good nourishing diet, seem the principal requisites in removing the rickets.

The whooping-cough is a most dreadful malady, and destroys great numbers of children in a year; it is undoubtedly of an infectious kind, frequently visiting whole families at once. The diet in this disorder should be principally composed of milk and vegetables for children who are past the breast, and the strength may be supported, when no great fever, by light broths, beef-tea, &c. All solids should be prohibited; and for their drink asses' milk, weak tea, or milk and water. By way of a restorative, as the disease subsides a little, wine or negus may be given, which will assist the effects of the medicine employed to recruit its strength.

In the commencement of the small-pox, as it is then a disease of the inflammatory kind, the child must be kept to a low regimen; nothing but milk or gruel, with fruits, should be allowed; and the taking it frequently, in this stage of the complaint, into the open air, with moderate clothing, will greatly tend to mitigate the violence of the symptoms. If the disease should be of the confluent kind, in which the child is loaded with innumerable pustules running one into another, after the first fever has in some measure subsided, the diet may be more generous; and, if purple spots appear on the skin, with evident marks of a putrid tendency, wine, porter, beef-tea, broths, fruit, and plenty of acids will be most desirable.

The measles being a disorder of a highly inflammatory nature, require a regimen of a very spare and low nature. The food may be gruel, arrow-root, with milk, sago, or salop; but

every kind of animal substance must be carefully prohibited. The drink may be barley-water, linsced-tea, sweetened with honey, common whey, pectoral decoction, or milk and water; but all acids are prejudicial. The air of the room is to be kept cool, and the child not overloaded with an immoderate quantity of bed-clothes.

The general principle of managing children will consist in knowing whether they should be kept low, or supported by cordials and nourishment; of this the parent or the nurse will receive information from the medical attendant, whose advice on these matters, I would recommend, should be punctually attended to. It may, however, not be improper to remark, that the diseases of children are, for the most part, of the acute and inflammatory kind, which will point out the necessity of their being in such cases kept to a low regimen.

Generous or cordial Regimen for Children.

Beef-tea, jellies, with milk, veal or chicken broth, custards, with eggs and milk, and a moderate proportion of spices. For such as are from five years and upwards, a proportion of animal food, as, the meat of young animals, lamb, veal, poultry, game, shell-fish, &c. animal and vegetable jellies.

Drink.

Cider, wine and water, wine alone, as, sherry, port, claret. Porter.

Regimen in inflammatory Diseases, or low Regimen.

Milk and bread, gruel, tapioca, sago, salop, or arrow-root, with milk; sub-acid fruits, currant jellies. When convales-

cent, light puddings, weak beef-tea, mutton or chicken broth; small proportions of animal food gradually increased at last to the generous regimen.

Drink.

Barley-water, thin gruel, milk and water, or cold water if desired. Some of these may be occasionally acidulated with lemon or orange juice. When convalescent, table beer, porter, negus, cider, which may also be gradually increased, till the situation of the patient allows the use of the cordial drinks.

ADDENDA.

METHOD OF PREPARING SOME OF THE ARTICLES RECOMMENDED IN THIS WORK.

Barley-Water.

TAKE of pearl-barley two ounces; water, five pints: first well wash the barley from the mealy matter which adheres to it, with cold water, afterwards boil it for a short time in about half a pint of water, to disengage the colouring matter from it; let this be thrown away, and the barley thus purified be boiled in about five pints of clear water, which is to be continued till half is consumed, when it must be strained for use.

Compound Barley-water, commonly called Pectoral Decoction.

Take of barley-water, prepared as above, two pints; figs sliced, two ounces; liquorice-root, sliced and bruised, half an ounce; raisins, stoned, two ounces; clear water, or that which has been previously distilled, one pint; boil the whole to two pints, and strain for use.

Almond, Emulsion.

A valuable beverage in coughs, plurisy, pulmonary consumptions; in inflammations of the bladder, kidneys, ureters, urethra, bowels, and lungs.

Take six drachms of sweet almonds ; white sugar, two drachms ; pure or distilled water, one pint : first scald the almonds in boiling water, in order to blanch them. They are then to be well beat in a marble mortar with the sugar, to a smooth paste, when the water is to be gradually added, till well incorporated, when it should be strained through a fine sieve or muslin, for use. Care should be taken that the almonds be perfectly sweet and free from rancidity. In irritable constitutions of children arising from fever, teething, or obstructed perspiration, this is drank with great advantage, and not only soothes the system, but, in the way of diet, considerably nourishes it.

Arrow-root Jelly.

Take a dessert spoonful of genuine arrow-root, in powder, and add as much cold water to it as will make it into a paste ; pour on it half a pint of boiling water, stirring it briskly, and afterwards boil it for a few minutes, when it becomes a clear smooth jelly, to which a little wine, milk, or sugar may be added. Mixed with a little hartshorn jelly, it forms an excellent food for rickety and debilitated children, and may be prepared as follows:—boil half an ounce of the *genuine* stag's horn shavings (not the shavings of bones, which are commonly substituted for it) in a pint of water, for about a quarter of an hour, then strain it, and add two dessert spoonfuls of arrow-root powder, previously well mixed with a small teacup full of cold water, stir them well together and boil them for a few minutes. For children, a little cinnamon, nutmeg, or carraway-seed may be added ; but for adults, wine or brandy is to be preferred.

Panada.

Put a blade of mace, a large piece of the crumb of bread, and a quart of water into a clean saucepan ; after having boiled two or three minutes, the bread is to be taken out and bruised in a basin very fine. Mix as much water as you think it will require, pour away the rest, and sweeten to the palate. Add a very small quantity of fresh butter, a little white wine, if necessary, and grate a little nutmeg over it.— In fevers of the inflammatory kind, the wine must be omitted, and if agreeable, a little new milk may be added, which then makes a pleasant food.

Isinglass Jelly, or Blanc-mange.

Put an ounce of isinglass, a few cloves or a blade of mace into a quart of water, boil till the isinglass be thoroughly dissolved over a slow fire, and evaporate the water to near one half, put in the whites of three eggs, previously beat up with a pint of new milk, and sweeten to your taste. Strain it through a jelly bag, and put it into moulds for use.

Calves' Feet Jelly.

Boil two calves' feet in a gallon of water till half be consumed, when cold skim off the fat, take up the jelly free from the settlement, and put it into a saucepan with a pint of wine (mountain), half a pound of sugar, and the juice of four lemons. Beat up the whites of three or four eggs and mix them with the jelly, and keep all well stirred till it boils, which having done a few minutes, pass it through a flannel bag into a bowl, in which is put some lemon peel sliced thin, and it is fit for use.

Hartshorn Jelly.

Take half a pound of stag's horn shavings and boil them in three quarts of water till it becomes a jelly, which is known by its hanging to the spoon when taken out to cool. Strain it while hot into a well-tinned saucepan, add to it a pint of Rhenish wine, a quarter of a pound of sugar, the whites of three or four eggs beat well to a froth, and the juice of two or three lemons, and strain it through a jelly bag into a vessel in which is deposited a little lemon peel cut very thin and sliced.

In children of debilitated constitutions, a simple jelly of stag's horn, and that of arrow-root, makes a light nutritious kind of food.

Beef Broth.

Take off the fat and skin of a pound of lean beef, cut it into pieces, and boil it with the under crust of a penny or twopenny loaf, and a little salt, in a gallon of water to two quarts, and strain, which is very nourishing.

Beef Tea.

This nutritious food is frequently ordered by physicians for invalids, and is prepared thus. Take a piece of lean beef managed as above, and cut it into small pieces, pour on it boiling water proportioned to the strength required, cover it up close and let it stand till cold. Season it moderately, and before taking it let it be warmed. Mutton tea is prepared in the same manner, by substituting lean mutton for beef. Some boil them two or three minutes just to raise the scum, but that made by

infusion only, seems best adapted to the weak stomachs of the sick.

Mutton Broth.

Take a pound of the loin of mutton, first cleared from all fat, and boil it in a quart of water, add a blade of mace, a piece of upper crust of bread, and as it boils, skim it carefully. Continue this for half an hour, and then strain off the broth. The meat will now be proper for eating. Season with salt to the taste. Some boil a turnip, which gives the liquor a sweet agreeable flavour. For persons in a very reduced state after illness, the quantity of animal food must be gradually increased, taking care that the stomach be not overloaded with too much at once.

Veal Broth.

Take two pounds of scrag of veal, and put to it two quarts of water, a piece of upper crust of bread, a blade or two of mace, and a little parsley tied together. Cover it close, let it boil two hours over a gentle fire, occasionally skimming it, when both meat and broth will be ready.

Chicken Broth.

Flay a large fowl, take off the fat, break all the bones, and boil it in two quarts of water with a blade of mace and a piece of crust of bread. Boil according to the goodness required, over a slow fire, which, to be tolerably rich, will take four or five hours. Pour off the broth and add one quart more of water, which may be boiled again some time, add the whole together, seasoned with salt, &c. and it will be a nutritious broth.

Chicken Water

Is sometimes directed for very weak stomachs, which is made thus: flay a large fowl, an old one is not objectionable, bruise the bones with a hammer, and with a crust of bread boil it in a gallon of water, till one half be consumed, when it is to be strained for use.

Bread Soup.

Put the upper part of a small loaf (the staler the better) with a very small piece of butter in a quart of water. Boil it thoroughly, beat it well with a spoon and keep it boiling till well incorporated, and of due consistence. Season with a little salt, and it is a good diet for a weak stomach.

Brown Caudle.

Boil four spoonfuls of oatmeal, with a blade or two of mace and a bit of lemon-peel, in two quarts of water, taking care not to let it boil over. Strain it, and add a quart of mild ale; sweeten it to the taste, and add half a pint of white wine.

White Caudle.

Make your gruel as above, strain it, but put no ale to it. Sweeten to the taste, grate in a little nutmeg, and put in wine at pleasure. The juice of a lemon is an agreeable and useful addition.

Salop.

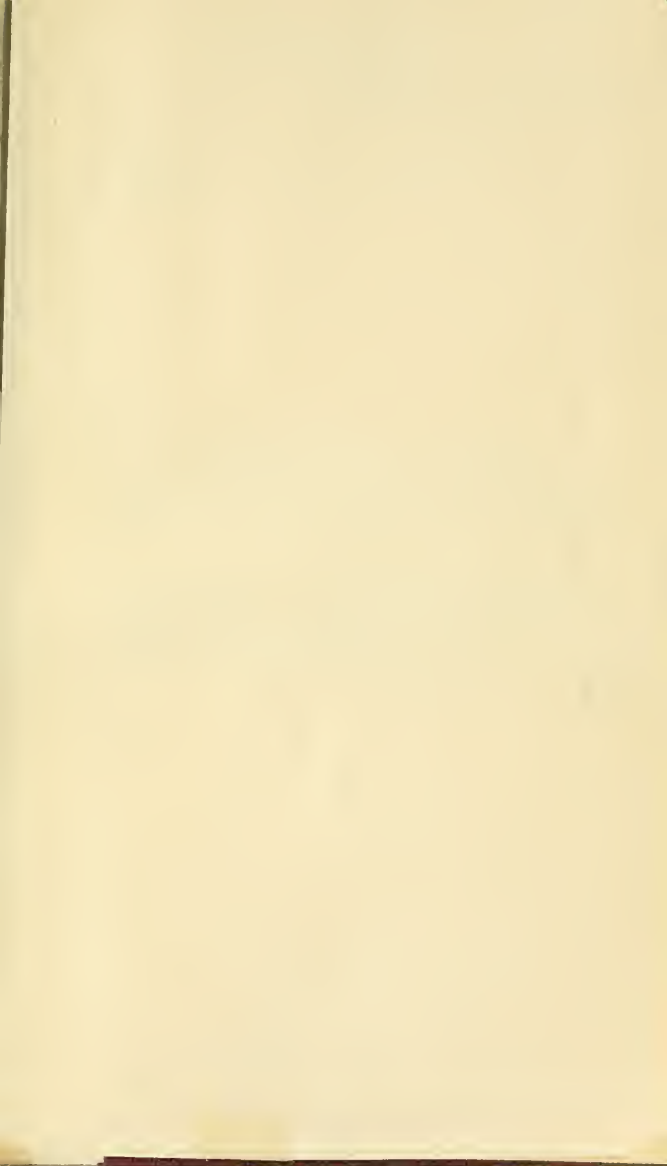
Put a large tea-spoonful of powdered salop into a pint of

boiling water, which must be added gradually. Keep it well stirred till it becomes a fine jelly; sweeten to the taste, and if required add as much wine as is agreeable.

Artificial Asses' Milk.

Take an ounce of stag's-horn shavings, two ounces of pearl barley, an ounce of eringo root, the same quantity of China root, a blade or two of preserved ginger, and eighteen garden snails bruised with their shells. Boil them in three quarts of water till half is consumed, sweeten to the taste, and add to the whole a pint of new milk. Cow's milk is commonly too heavy for weak stomachs, and seems to approximate nearest to the quality of asses' milk when deprived of its oily parts, which is best effected by boiling, and when cold, well skimming it. A very good imitation of asses' milk is made by mixing milk and barley-water together, in equal proportions, and sweetened (not too much) with a little fine sugar.

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